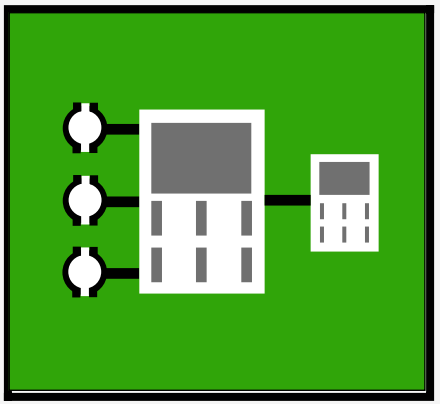
SPECTRUM Enterprise Manager

Device Management

Ascom TimePlex ST-1000



Supports Management Module SM-ASC1000

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P.O. Box 5005

Rochester, NH 03866-5005

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Introduction

This section identifies what you should understand about SPECTRUM and the Ascom TimePlex SYNCHRONY® ST-1000 before you use this document.

The following topics are covered in this section:

- Purpose and Scope on Page 8
- Required Reading on Page 8
- Supported Devices on Page 9
- The SPECTRUM Model on Page 9

Purpose and Scope

Use this document as a reference for SPECTRUM management module SM-ASC1000, which provides device management support for the Ascom TimePlex Group's SYNCHRONY ST-1000 Switching System and TNT protocol.

Note: **The SYNCHRONY ST-1000 is referred to as the "ST-1000" throughout this document.**

The information in this document is intended for use in conjunction with the other SPECTRUM Device Management documentation available online at Cabletron's website.

Required Reading

Before using this document, you should understand the functions and navigation techniques of SPECTRUM as described in the following documents.

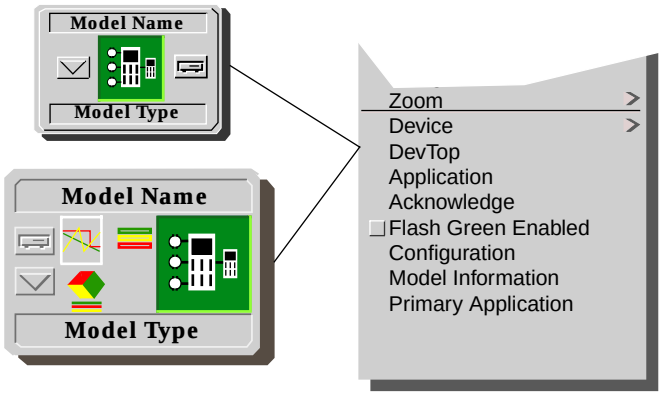
- ***Getting Started with SPECTRUM for Operators***
- ***Getting Started with SPECTRUM for Administrators***
- ***How to Manage Your Networks with SPECTRUM***
- ***SPECTRUM Views***
- ***SPECTRUM Menus***
- ***SPECTRUM Icons***

Supported Devices

The ST-1000 consists of one control shelf and up to three optional expansion shelves located in one or more physical chassis. Each shelf has 17 slots to accommodate a nodal control processor; T1, E1, synchronous data, and remote termination I/O modules; and server modules.

The ST-1000 provides for voice, video, and data transmission through the LAN including routing, bridging, and a range of SNA capabilities.

Figure 1: Device Icon



The SPECTRUM Model

SPECTRUM uses the model type St1kNode to represent the physical device, its applications, and their interfaces.

Figure 1 shows the two types of icons that represent an ST-1000 and a sample Icon Subviews menu. These icons and menus let you access views that provide device management information.

Performance Views

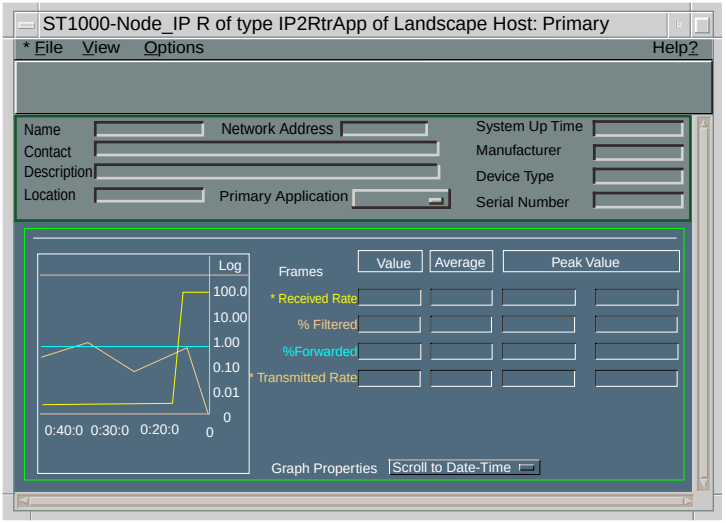
This section describes the Performance views available for the device.

These views display statistical information about device and port operation. The following performance views are available:

- The Port Performance View on Page 11 provides packet statistics for the device's ports.
- The Device Performance View on Page 11 provides statistical information on frames forwarded and received by the device.

Figure 2 shows a sample performance view. A detailed description of the performance view is provided in ***SPECTRUM Views***.

Figure 2: Sample Performance View



Port Performance View

*Access: From the **Icon Subviews** menu for the Interface icons, select **Performance**.*

The following packet statistics are displayed:

- Load
- Packet Rate
- % Error
- % Discarded

Device Performance View

*Access: From the **Icon Subviews** menu for the Device icon, select **Performance**.*

The following frame statistics are displayed:

- Frame rate
- % Delivered
- % Forwarded
- % Transmit
- % Error
- % Discarded

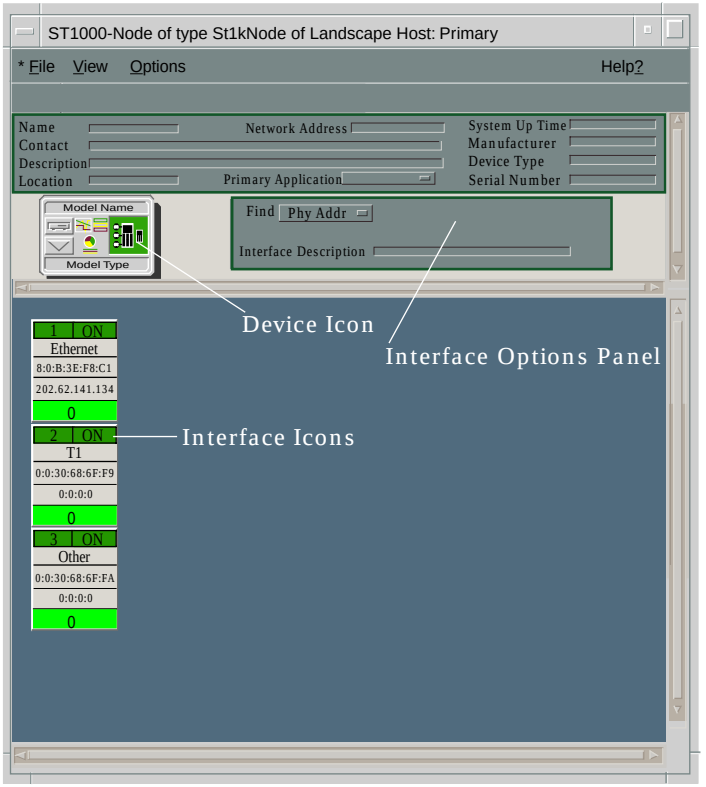
Interface Device View

This section describes the view that provides dynamic configuration and performance information for the device's interfaces.

Figure 3 shows an Interface Device view. In addition to displaying interface information, this view provides a Device icon that lets you monitor the ST-1000's operation and access other views specific to the device. If the configuration of the ST-1000 changes, SPECTRUM modifies the Interface Device view after the next polling cycle to reflect the new configuration.

Note: **The Interface Options Panel is described in *SPECTRUM Views*.**

Figure 3: Interface Device View



Interface Icons

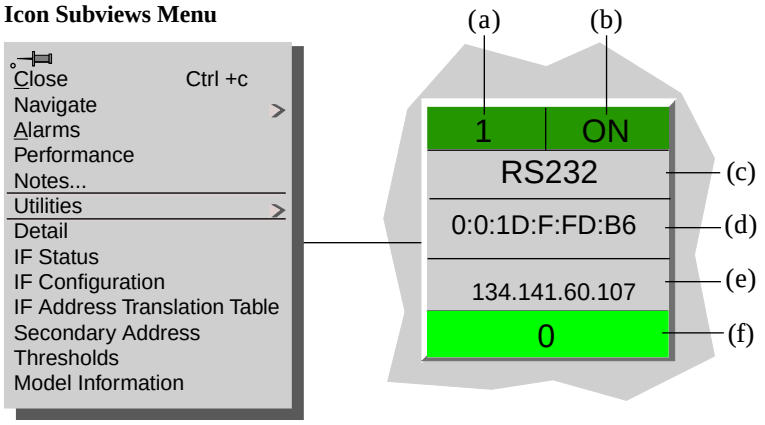
These icons represent the interfaces/ports of the ST-1000. They identify the type of interface or port and provide statistical information.

Figure 4 shows a sample Interface icon, its Icon Subviews menu, and its labels/double-click zones.

Note:

The callouts (a) through (g) displayed in the illustration identify the label and, if available, the view to which it provides double-click access. For example, the icon area referred to by callout (b) displays the administrative status and provides double-click access to the Interface Status view. The menu displayed in the illustration is the Icon Subviews menu for that Interface icon.

Figure 4: Sample Interface Icon



(a) Interface Label

(b) Administrative Status Label/Interface Status View

(c) Interface Type Label/Default GIB View

(d) MAC Address Label/Interface Address Translation Table

(e) Address Label/ Secondary Address Panel

(f) Gauge Label/ Performance View

Interface Icon Labels

The following paragraphs describe the Interface icon labels and the views accessible from the associated double-click zone, when available. These views are also accessible from the Icon Subviews menu.

Interface Label

This label displays the interface (port) number.

Administrative Status Label

This label displays the status of the interface for the primary application selected. The possible states are ON, OFF, and Test. Double-click this label to open the Interface Status View on Page 15.

Interface Type Label

This label displays the interface type. Double-click this label to open the Default GIB view, which shows the model type name.

MAC Address Label

This label displays the address of the ST-1000 interface. Double-click this label to open the Interface Address Translation Table on Page 15.

Address Label

This label displays the address or mask. The default is the address. Double-click this label to open the Secondary Address Panel, which is described in ***SPECTRUM Views***.

Change this label's display as follows:

1. Double-click the label to open the Secondary Address Panel.
2. Select the address you wish to display and click OK.

Gauge Label

This label displays the performance statistic that you set in the Gauge Control Panel, which is accessed from the Interface Options Panel. (Refer to ***SPECTRUM Views***.) Double-click this label to open the Device Performance view.

Interface Status View

*Access: From the **Icon Subviews** menu for the Interface Device view, select **IF Status**.*

This view lets you set the administrative status. It provides the following information.

Operational Status
A read-only field displaying the current operational state of the interface (ON, OFF, or Testing).

Administrative Status
A menu button that lets you set the desired operational state of the interface (ON, OFF, or Testing).

Table 1 shows the possible interface states, the Administrative label text display, and the respective label colors.

Table 1: Interface Status Label Definitions

Operational State	Administrative State	Text Display	Label Color
ON	ON	ON	Green
OFF	OFF	OFF	Blue
OFF	ON	OFF	Yellow
Testing	Testing	Test	Red

Interface Address Translation Table

*Access: From the **Icon Subviews** menu for the Interface Device view, select **IF Address Translation Table**.*

This table cross-references the ST-1000 physical addresses to the network addresses for the selected Interface icon. Double-click any field in the table to display a dialog box that lets you update the physical and network addresses.

This table is accessed from the Interface Configuration Table within the Device Configuration view. The fields are described below.

Interface Index
A unique value for each interface. Its value ranges between 1 and the total number of interfaces.

Physical Address
The interface's address at the protocol layer immediately below IP (Internet Protocol) in the protocol stack. The Ethernet address of the bridge is displayed for both channels of the bridge.

Network Address
The network address of the interface.

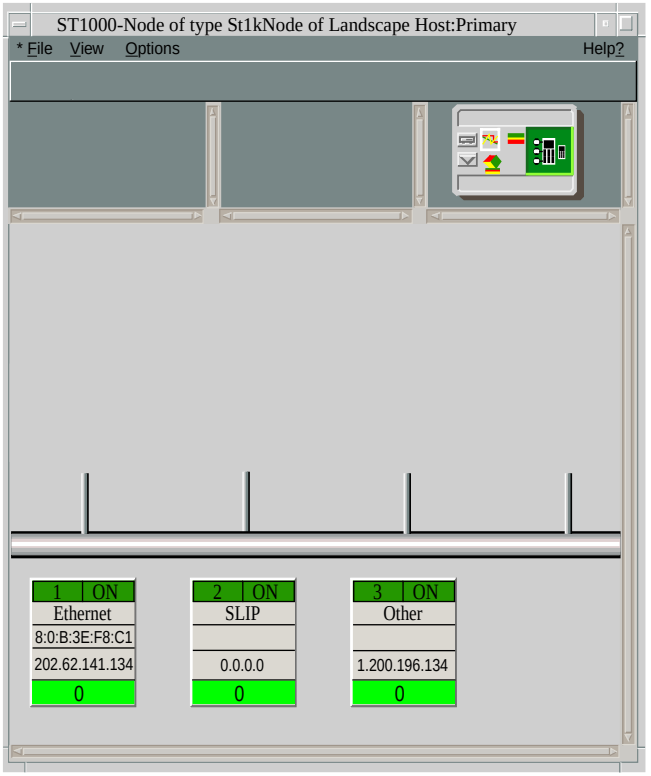
Device Topology View

This section introduces the Device Topology view for this model type.

This view displays icons representative of the ST-1000, its ports or interfaces, and other devices and LANs containing those devices and connected to its ports. Refer to ***SPECTRUM Views*** for details on this view.

A sample Device Topology view is shown in Figure 5.

Figure 5: Sample Device Topology View



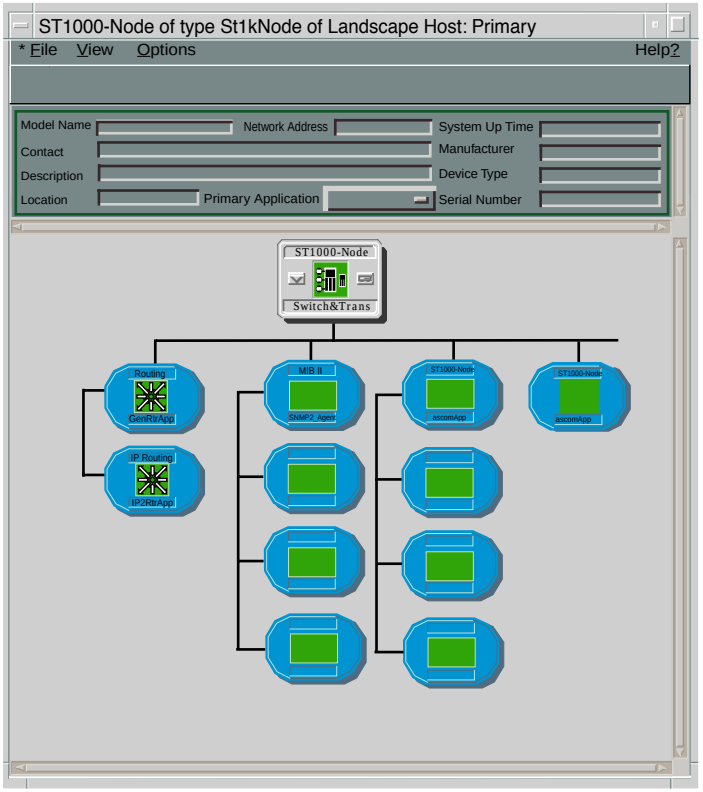
Applications Views Summary

This section describes the Applications view and provides a cross-reference to the device-specific applications available for the ST-1000.

Figure 6 shows an Applications view in the Icon mode, which shows application models as icons. A List mode, which displays text labels, is also available. To change the display mode, select **View > Mode > Icon** or **List**.

The icons (Icon mode) and text labels (List mode) represent applications supported by the ST-1000. These applications are associated with the IP address used to model the device in SPECTRUM. Some applications are common to all model types in SPECTRUM and others are device-specific. Some applications are for optional products purchased separately. Which applications are available depends upon the configuration of the ST-1000. Only the device-specific application are described in this document.

Figure 6: Applications view (Icon Mode)



The following device-specific applications are described in this document.

Note:

Each application provides access to one or more views. Typically, these views present data in tables. Items listed in a table quite often provide double-click access to a detailed view that lets you view other associated data and/or make changes to read-write fields contained in the view.

- St1kNodeApp on Page 20 lets you configure and administer to the ST-1000 node.
- ST1kAccessApp on Page 35 provides node and modem access control status and configuration information.
- ST1kModuleApp on Page 47 provides slot, NCP, and port status information.
- ST1kLgmApp on Page 60 provides LGM port utilization, configuration, and status information and statistics.
- ST1kFsmApp on Page 66 provides FSM module status information.
- ST1kSgmApp on Page 69 provides utilization and status information for the SGM/AG module and its ports.
- ST1kAdxApp provides model information. See Model Information Views on Page 191.
- ST1kAd10App on Page 73 provides AD 10 AGM port, voice port, data port, and packet band configuration, status, and statistics information.
- ST1kRtmApp on Page 87 provides RTM port configuration, status, and statistics information.
- ST1kChnlApp on Page 91 provides channel and trunk status and statistics information.
- ST1kINLApp on Page 109 provides Inter Nodal Link (INL) configuration, status, and statistics information.
- ST1kFrmRlyApp on Page 114 provides frame relay channel and port status information.
- ST1kBundleApp on Page 122 provides bundle configuration and status information.
- ST1kE1PortApp on Page 127 provides E1M port configuration and status information.
- ST1kT1PortApp on Page 130 provides T1M port configuration and status information.
- ST1kSdmPortApp on Page 133 provides SDM port configuration and status information.
- ST1kAsmApp on Page 136 provides ASM resource utilization and status information.
- ST1kVoiceApp on Page 140 provides ASM voice configuration and statistics information.

- ST1kAsmX50App on Page 149 provides ASM X50 configuration and statistics information.
- ST1kDsmApp on Page 153 provides DSM module configuration, status, and statistics information.
- ST1kDsmPortApp on Page 168 provides DSM port configuration, status, and statistics information.
- ST1kAlarmApp on Page 186 provides alarm administration information.

St1kNodeApp

This application lets you configure and administer to the ST-1000 node.

The Icon Subviews menu for this application provides access to the device specific views listed below.

Node Administration on Page 20 provides node configuration and node clock configuration parameters, as well as node available-resource information.

System Profile Administration on Page 22 provides node system profile, master clock system profile, and Cpi system profile information.

Partition and Softload Administration on Page 25 provides security partition, configuration partition, and security softload information.

Node Status on Page 26 provides node status, clock, and softload/upload information.

Nest Administration on Page 29 provides nest status and configuration information.

Channel Profile Administration on Page 31 provides channel cost and error information.

Community Administration on Page 31 provides security, configuration, status, and alarm mapping information.

Hardware Resource Engine Administration on Page 32 provides hardware resource engine status and configuration information.

Node Administration

This view contains the three areas described below, i.e., Node Configuration Parameters, Node Clock Configuration, and Node Available Resource Information.

Node Configuration Parameters

This area of the Node Administration view contains the following read/write fields.

Name
Information you enter that identifies the location of the ST-1000, e.g., a building name.

Contact
Information you enter that identifies a person to contact, e.g., a name and phone number.

Description
Information you enter that identifies the ST-1000, e.g., by its function in your organization.

Location
Information you enter that identifies the location of the ST-1000 more definitively than **Name**, e.g., an address.

Number of Nest
The number of the nest that you enter. The default is *1*. New numbers will not operate until the restNodeDiagnostics(updateNest) MIB attribute is updated.

Clock Switch
A drop-down selector button that can be set to *normal* or *fast*.

Alarm Relay
A drop-down selector button that can be set to *enable* or *disable*.

Node Clock Configuration

This area of the Node Administration view contains the following fields.

Index
A read only integer from *1* to *8*.

Start Mode
A read-write field that can be set to *active* or *erase*. The default is *active*.

Update
A read-only field that indicates the need to update the clock. The possible values are *loaded* or *updateRequired* (the default value).

Type
A read-write value that can be set to *internal*, *station1*, *station2*, *portRxInd*, *portRxDep*, or *portTx*.

Station Speed
A read-write field that can be set to one of the speed values listed below.

s2400	s3200	s3600	s4000
s4800	s5600	s6000	s6400
s7200	s8000	s8400	s9600
s12000	s14400	s16000	s19200
s24000	s28800	s32000	s38400
s40800	s48000	s50000	s56000
s57600	s64000	s72000	s76800
s80000	s96000	s112000	s128000

s144000	s153600	s168000	s192000
s224000	s230400	s256000	s384000
s448000	s460800	s512000	s576000
s672000	s768000	s896000	s1024000
s1152000	s1334400	s1536000	s1544000
s1920000	s1984000	s2048000	s1856000
s1792000	s1728000	s1664000	s1600000
s1472000	s1408000	s1288000	s1280000
s1232000	s1216000	s1176000	s1120000
s1088000	s1064000	s1008000	s960000
s952000	s840000	s832000	s784000
s728000	s704000	s640000	s616000
s560000	s504000	s392000	s336000
s320000	s280000		

Port Source
A read-write value that provides the port address.

Quality
A read-write value that can be set to *high* or *low*. The default is *high*.

Priority
A read-write priority value from *1* to *8*.

Node Available Resource Info

This area of the Node Administration view contains the following fields.

Id
The available resource address. If no address is found, the value is *0*.

Resource Type
Specifies the resource type to search.

System Profile Administration

This Icon Subview selection accesses a view that contains the three areas described below, i.e., Node System Profile, Master Clock System Profile, and Cpi System Profile.

Node System Profile

The following fields are provided:

Node Number
A read-write value indicating the node number (e.g., 20.1).

Node Type
A selector button that indicates either *rootNode*, which is a dedicated node that serves as an active gateway to other ST-1000 nodes in the same

network; *dedicatedNode*, which is dedicated to the user device or the CNMS; or *sharedNode*, which is owned by the CNMS with resources on the node allocated to multiple user partitions.

Database Version
A read-only value indicating the non-volatile RAM database version number. If this number does not match the internal version number used for the revision of NCP code running at node startup, the database will be flushed. In this event, you can reconfigure the node and reset it to put the node back into operation.

Node Control
A selector button used to set control to one of the following values: *resetNode* resets the node; *validDateDatabase* sets the database version number to the value used for this revision of ST-1000 software; *invalidDateDatabase* sets the database version number to zero, which will flush the database when the node is reset; *updateThroughput* loads all of the throughput values from the node access table; and *updateCpiProfile* loads the CPI system information (i.e., control. three passwords, the session timeout value, and the maximum number of throughput sessions).

Node Date
A read-write value that updates the NCP RTC clock. The format is `mm/dd/yyyy`.

Node Partition Id
A read-write integer value, *1* being reserved for the CNMS.

Node Update
A read-only field set to *loaded* when the node is reset. The default value is *resetRequired*.

Node Time
A read-write value that updates the NCP RTC clock. The format is `hh:mm:ss`.

Default Root
A read-write root value used by the trap generator to send traps if there is no alarm log notification list specified.

Master Clock System Profile

The following fields are provided:

Node Master Clock Priority
A read-write value indicating *Master1* through *Master16* or *Slave*. The default value is *Slave*.

Master Clock List
A read-write value indicating up to 16 master clock nodes, with two bytes used for each node number.

Cpi System Profile

The following fields are provided:

Cpi Profile Update
Indicates whether the CPI password control, CPI session timeout time, CPI maximum number of passthrough sessions, or any of the three CPI passwords have been changed since the last update CPI profile command was invoked.

Cpi Session Timeout
The CPI session will terminate when no request is made for the number of minutes indicated by this field. For the CPI port, this timeout only occurs if password control is enabled. For the modem port, the session can terminate regardless of the password control state and the port will switch to an NMS session in SLIP mode.

Cpi Max Passthru Sessions
Indicates the maximum number of CPI access device passthrough sessions that can be active simultaneously.

Cpi Password Control
Indicates whether CPI access is controlled using passwords. This field and the three CPI passwords apply to CPI access through the CPI port, through the modem port, and through access devices.

Cpi Password Level 1
This password allows both read and write access to both local and remote nodes if password control is enabled. It applies to users accessing the node from the CPI port, modem port, or an access device.

Cpi Password Level 2
This password allows both read and write access to the local node and read-only access to the remote nodes if password control is enabled. It applies to users accessing the node from the CPI port, modem port, or an access device.

Cpi Password Level 3
This password allows read-only access to both local and remote nodes if password control is enabled. It applies to users accessing the node from the CPI port, modem port, or an access device.

Partition and Softload Administration

This view contains the three areas described below, i.e., Security Partition Entry, Configuration Partition Entry, and Security Softload Entry.

Security Partition Entry

This area of the Partition and Softload Administration view contains the following fields.

Sec. Partition Control
A write-only field that can be *validateCRC* or *invalidateCRC*.

Sec. Partition CRC Check
A read-only field that can be *succeed* or *fail*.

Sec. Partition Flush Mode
A write-only field that can be *enable* or *disable*.

Configuration Partition Entry

This area of the Partition and Softload Administration view contains the following fields.

Config Partition Control
A write-only field that can be *validateCRC* or *invalidateCRC*.

Config Partition CRC Check
A read-only field that can be *succeed* or *fail*.

Config Partition Flush Mode
A write-only field that can be *enable* or *disable*.

Security Softload Entry

This area of the Partition and Softload Administration view contains the following fields.

Softload Dest Port
A read-write value that identifies the destination module or port for downloading software. A module address uses the format `nest:slot:0`. If the address is `0:0:0`, the file will be downloaded to the active NCP.

Softload File Name
Specifies the file on an EMS or CPS station to be downloaded into NCP program store. The type of code in the file is indicated by **Softload Software Type**.

Softload Ems Node ID
A read-write field that gives the root node ID for the source EMS or ST-1000 node.

Softload Timeout
A read-write field that indicates the number of seconds that the ST1000 will wait during a

softload before aborting the softload if no response is received.

Softload Control
A write-only field having one of the following values. *startDownload* initiates download from an EMS, local CPS, or other ST-1000 node to an online FLASH memory location. *onlineCopy* initiates an online image copy from an offline FLASH memory location (not mapped by the NCP map file) to the online one (mapped by the NCP map file). *startDownloadToRecovery* initiates download from an EMS, local CPS, or other ST-1000 node to an offline FLASH memory location.

Softload Directory Name
A read-write field that specifies the directory path where the file that is to be downloaded resides on the EMS or CPS station.

Softload Software Type
A read-write field that identifies the module type for downloading software or database image.

Softload Source Ems IP
A read-write field that identifies the download server. If the value is *1.0.0.0*, CPS is being used. If the value is *2.0.0.0*, another ST-1000 node is being used whose node ID is specified in **Softload Ems Node ID**. Otherwise, the EMS is being used, with access through the root node specified in **Softload Ems Node ID**.

Node Status

This view provides the following fields.

Node Status
Displays either *online*, *initializing*, or *fail*.

Node Condition
Displays either *normal* or *exception*.

SW Revision
The version number of the NCP software that is currently running.

MIB Revision
The version number of the MIB schema that the NCP is currently running.

Node Up Time
The number of seconds since the last restart of this ST-1000.

Error Minutes
The count of the error minutes in the bus for the past 24 hours.

Number Of Nest
An integer value from *1* to *4*.

PktBand BW Avail
An integer value from *0* to *2147483647*.

PktBand BW Max
An integer value from *0* to *2147483647*.

Total Dsm Calls/Sec
An integer value in calls per second.

Node Status Diagnostics
A write-only field that you set to one of the following: *update nest*, *update clock table*, *select clock1*, *select clock2*, *select clock3*, *select clock4*, *select clock5*, *select clock6*, *select clock7*, *select clock8*, *enable test gen local*, *enable test gen remote*, *disable test gen*, *turn on major alarm relay*, *turn off major alarm relay*, *turn on minor alarm relay*, *turn off minor alarm relay*, *clear Ncp Bg Diag results*, or *clear Ncp startup Diag results*.

TestGen Status
The current status of the test generator for TDM nDS0 channels. The possible values are *idle*, *good*, and *error*.

TestGen TDM Channel
The current channel address that the TDM test generator is being used on.

Alarm Relay Status
Indicates whether the alarm relay port is programmed to be used or not. The possible values are *enabled* and *disabled*.

Alarm Relay Sub Status

The status of the major alarm relay (first value) and the minor alarm relay (second value). The possible values are *onOn*, *onOff*, *offOn*, and *offOff*. This field is only valid if the alarm relay is enabled.

Modem Status
The current status of the modem port. The possible values are *idle*, *inCpsSession*, and *inEmsSession*.

Cpi Status
The current status of the CPI port. The possible values are *idle* and *inSession*.

Softload Status
The softload status. *idle* means that no softload has been run since the node went online. *softloading* indicates that a download is underway from an SNMS, CPS, or other node. *copyToStandbyNcp* means that a file is being transferred from the active NCP to the standby NCP. *copyToModule* means that a file that is not stored on the NCP is being transferred to the module that is responsible for storing the file.

copyToOnline means that a file is being transferred from the flash recovery area to its proper location in flash. *success* means that a download completed with no errors. Any other value indicates that an error occurred during a softload.

Softload Size
The number of bytes softloaded. Divide this value by the value of **Softload Total** to determine the completion percentage. If no softloading is in progress, this value is *0*.

Softload Total
Total number of bytes to be softloaded. If no softloading is in progress, this value is *0*.

Softload Software Type
Indicates the type of software being transferred if a softload is in progress. *notApplicable* is displayed if no softload is in progress.

Upload Status
Each upload client, which is used to upload files to SNMS or to other nodes, is represented by one octet. There are a maximum of eight upload clients per ST-1000 node. The possible values for a single octet (that is, a single upload client) are the following: *idle* (36) means no upload has occurred; *uploading* (68) means upload is in progress; *success* (65) means upload completed successfully; *noResource* (106), *transmitFailure (107)*, and *receiveFailure* (108) indicate specific upload failures, and *failure* (43) means reason unknown.

Upload Size
The number of bytes that have been uploaded to each of up to eight clients. Each client uses four bytes for its value. Divide each client's value in this field by the corresponding value in **Upload Total** to determine the completion percentage. If no uploading is in progress, the value for that client will be *0*.

Upload Total
The total number of bytes to be uploaded to each of up to eight clients. Each client uses four bytes for its value. If no uploading is in progress, the value for that client will be *0*.

Upload Client ID
The node numbers of the eight clients that this node is serving during an upload. Each client is identified by two bytes. If the client is an EMS, the value will be *xFFFE*.

The following fields are in the Clock Information view, which is accessed by clicking **Clock Information** in the Node Status view.

Master Clock Priority
A read-only field having a value of *slave* or *Master1* through *Master16*.

Master Clock Msg
A read only field displaying *assertingMaster mode*, *defaultInternal*, or *unavailable*.

Node Clock Table Index
A read-only field that indicates which clock in the clock fallback table is in use. If **Node Clock Status** is *slaveHoldover*, this field may display *0*.

Node Clock Status
A read-only field that displays either *locked*, *lockedStable*, *locking*, *relocking*, *slaveHoldover*, *waitInternal*, *hardwareCheck*, *startup*, *defaultIntOsc*.

Node Clock Substatus
The substates associated with the Slave Holdover state. If **Node Clock Status** is not *slaveHoldover*, then *notApplicable* will be displayed. The possible values are *checkQualifier*, *delayFallback*, *prequalifyClock*, *qualifyInvalid*, *qualifyValid*, *requalifying*, *waitInvalid*, *waitQualify*, *notApplicable*.

Node Clock Source Type
The type of clock currently in use. If **Node Clock Status** is *slaveHoldover*, this field may display *notApplicable*. The possible values are *internal*, *station1*, *station2*, *port RxInd*, *port RxDep*, *port Tx*, *notApplicable.*

Node Clock Source Port
The source port address of the clock currently in use if **Node Clock Source Type** is *port RxInd*, *port RxDep*, or *port Tx*; otherwise, this field will be *0*.

Node Clock Source Priority
An integer value from *1* to *8* that gives the priority of the clock currently in use. If **Node Clock Status** is *slaveHoldover*, this field may display *0*.

Node Clock Source Quality
The quality of the clock currently in use. The possible values are *high*, *low*, or *notApplicable*. If **Node Clock Status** is *slaveHoldover*, this field may display *notApplicable*.

Node Clock Source Qualifier Status
A read-only field having a value of *good* or *error*.

Nest Administration

The view provides the following fields.

Addr
The nest address.

Status
A read-only field having *initializing*, *online,* and *failed* as possible values.

Condition
A read-only field having *normal* and *exception* as possible values.

Num Modules
An integer value from *1* to *17*.

Power
The power supply condition, either *good* or *fail*.

Fan
The fan condition, either *good* or *fail*.

Temperature
The temperature condition, either *good* or *tooHigh*.

Clk Ref1
The Clock Reference 1 status, either *enable* or *disable*.

Clk Ref2
The Clock Reference 2 status, either *enable* or *disable*.

Bus Loopback
The Bus Loopback status, either *leftEnable*, *rightEnable*, or *disable*.

SlotPresence
The lsb of the second octet represents slot 1 and the msb of the first octet represents slot 16. Slot 17 always has an RXM. Each bit set to 1 indicates that a module is present in that slot.

Active Right
A read-only value equal to *circuit1* or *circuit2*.

Active Left
A read-only value equal to *circuit1* or *circuit2*.

Rxm Ckt1
The Rxm Circuit 1 status, either *pass*, *fail* or *noRxm*.

Rxm Ckt2
The Rxm Circuit 2 status, either *pass*, *fail* or *noRxm*.

Lxm Ckt1
The Lxm Circuit 1 status, either *pass*, *fail* or *noLxm*.

Lxm Ckt2
The Lxm Circuit 2 status, either *pass*, *fail* or *noLxm*.

Description
A textual description of the nest configuration.

Channel Profile Administration

This view provides the following fields. Except for **Index**, which is a read-only field, all fields are read-write. Double-click an entry to access the Detail view and make changes.

Index
An integer value from *1* to *225.*

Cntrl Mod
The control mode state, either *enable*, *disable*, or *erase*.

Cost Type
The cost types, which can have the value *hops*, *userDesignated*, *queuingDelay*, or *delayAndCost*.

Max Cost
A value ranging from *0* to *2147483647.*

Priority
A value ranging from *0* to *16.*

Encryption
Either *don'tCare* or *required*.

MaxSatHop
An integer value from *0* to *5*.

ErrPerfReq
The error performance requirement (x) used as 10E-(x). The range is from *10E-4* to *10E-9*.

INL Group
A value ranging from *0* to *7*, with *0* meaning "don'tCare."

OverRide
The channel profile override, either *enable* or *disable*.

Retry Timer
A read-write that indicates how often the ST-1000 will attempt to reconnect a channel, using the current profile, in the event of an abnormal disconnection or connection failure. The channel must be configured for automatic connection. This field uses an incremental value from *1* through *60*, with each increment equal to 5 seconds. The range for this field is therefore 5 seconds to 5 minutes (5 x 60 seconds). The default value is *6* (i.e., 30 seconds).

Community Administration

This view provides the following fields.

Index
The format is `Partition ID (1-1023):Entry ID (1-5)`. Only 32 partitions can be entered, each with 5 entries.

Cntrl Mod
The community control mode can be *`enable`*, *`disable`*, or *`erase`*. A community entry cannot be erased if it is enabled. Community entry 1.1 cannot be disabled or erased.

Name
The default name is “public.”

Security Map
Represents which groups in the security MIB this community has access to. For each octet, *1* means no access, *2* means read-only, and *3* means read-write.

Config Map
Represents which groups in the resource configuration MIB this community has access to. For each octet, *1* means no access, *2* means read-only, and *3* means read-write.

Status Map
Represents which groups in the resource status MIB this community has access to. For each octet, *1* means no access, *2* means read-only, and *3* means read-write.

Stats. Map
Represents which groups in the resource statistics MIB this community has access to. For each octet, *1* means no access, *2* means read-only, and *3* means read-write.

Alarm Map
Represents which groups in the alarm MIB this community has access to. For each octet, *1* means no access, *2* means read-only, and *3* means read-write.

Hardware Resource Engine Administration

This view contains two areas as described below; Hardware Resource Engine Information and Hardware Resource Engine Configuration.

Hardware Resource Engine Information

This area of the Hardware Resource Engine Administration view contains the following fields.

Mod Addr
The physical address of the module this engine is located on.

Id
The engine ID on the module.

Status
The engine status, either *removed* (logically removed), *normal*, or *failed* (engine failure).

Application
The type of application allocated to this engine, if any.

Max Ports
The maximum number of application ports on this engine.

Num Ports
The number of application ports on this engine.

Max SAFs
The maximum number of SAF ports on this engine.

Num SAFs
The number of SAF ports on this engine.

Max SCFs
The maximum number of SCF ports on this engine.

Num SCFs
The number of SCF ports on this engine.

Max Load
The total load capacity.

Cur Load
The percentage of maximum load capacity that is in current use.

Sub-Status
If an engine fails, this field indicates the reason for the failure; otherwise, *none* is displayed. The possible values are *startupDiagnosticsFailure*, *noWellandAlive*, and *none*.

Hardware Resource Engine Configuration

This area of the Hardware Resource Engine Administration view contains the following fields.

Module Addr
The address of the module that this engine is located on. The format is <nest>.<slot>.

Id
The engine ID on the module.

Start Mode
Controls whether the engine should start as inserted or removed when the module comes up. If the value is set to *automatic*, the engine will start as inserted. Otherwise, it will start as removed. The possible values are *automatic* and *offline.*

Engine Update
Indicates whether the current settings in the engine configuration MIB represent the active settings on the module or not. If the value is *resetRequired*, an engine reset command is required for the current configuration to take effect. This is done by setting **Hardware Resource Engine Diagnostics** to *reset*. *loaded,* or *resetRequired*.

Application
Used to reserve an engine for a specific application type. If no application type reservation is desired, the value *any* should be used. If the application type specified is not supported for the module that the engine is located on, the engine will not be able to be used for any applications. In this event, the module will generate an engine failure alarm to indicate a bad configuration. The possible values are *x50*, cel*p-atc*, *adpcm*, *link*, *ecelp-fr,* and *any*.

Partition id
An integer value from *1* to *1023*.

ST1kAccessApp

This application provides access to node and modem access control status and configuration information.

The Icon Subviews menu for this application provides access to the device specific views listed below.

Access Control on Page 35 provides root, trap, node, and community access administrative information.

CPI/Modem Access Control on Page 44 lets you set up the CPI and modem port configuration.

Root Node IP Access Information on Page 45 provides IP control address information.

Root Node IP Access Config on Page 45 provides IP offline subnet configuration and gateway information.

Access Control

This view contains four areas, e.g., Root Access Administration, Trap Access Administration, Node Access Administration, and Community Access Control Administration.

Root Access Administration

This area of the Access Control view lists the index number, root access control modes (*enable*, *disable*, or *erase*), and associated IP addresses.

Trap Access Administration

This area of the Access Control view provides the following fields.

Index

A read-only field having an integer value of *1* through *8*. This indicates which of up to 8 EMS stations will receive traps.

ControlMode
A read-write field having a value of *enable*, *erase*, or *disable* (the default value).

IP Address
The IP address of the unit that will receive traps.

Node Access Administration

This area of the Access Control view provides the following fields.

Index
A read-only field having an integer value of *1* through *1023*. This field provides for a maximum of 32 partitions per node. If the node is a dedicated CNMS node, only the entry for CNMS (partition ID 1) exists. The rest of the entries are empty. If the node is a dedicated user node, only the entries for CNMS (partition 1) and the partition ID of the user device exist. The rest of the entries are empty. If the node is a shared node, the entry for CNMS (partition 1) always exists. Thirty-one other entries with partitions 2 through 1023 can be created. These entries represent user device partitions that have access to the node.

Control Mode
A read-write field having a value of *fullAccess*, *tableAccess*, *disable*, or *erase*. *fullAccess* will only check the requester's partition ID. tableAccess will use the root node list to verify the requester's partition ID and node number. *disable* means that the entry is not in effect. The CNMS entry cannot be set to *disable*. *erase* will erase this entry. The CNMS entry cannot be set to *erase*.

Update
Indicates whether the current throughput value has been loaded. The possible values are *loaded* and *updateThroughputReq* (the default value).

RootList
A list of up to 16 root nodes (2 bytes per node number) within the partition that have access to this node. This list is only used if **Control Mode** is set to *tableAccess*.

ChPrfList
A bit map representing which channel profiles (1-255) are assigned to this partition. The right-most bit of the right-most octet (lsb of the last byte) represents channel profile 1. A channel profile can be assigned to multiple partitions.

Throughput
The access bandwidth (*0* through *2147483647*) for this partition, in units of bps. This field is only used on a shared node.

Community Access Control Administration

This area of the Access Control view contains the seven buttons described below.

Mib2 Access Control

This button in the Access Control view accesses the following fields.

Index

A read-only field. The first two bytes of this index are a partition ID with a range of *1* to *1023*. There can be at most 32 partitions for a single node, and each partition must already have a corresponding node access table entry defined. The last two bytes are an entry ID with a range of *1* to *5*. For each partition, up to 5 entries may be defined.

System

Defines access rights for a community entry to the MIB-II system group. The possible values are *noAccess*, *readOnly*, and *readWrite*.

Interface

Defines access rights for a community entry to the MIB-II interface group. The possible values are *noAccess*, *readOnly*, and *readWrite*.

At

Defines access rights for a community entry to the MIB-II AT group. The possible values are *noAccess*, *readOnly*, and *readWrite*.

IP

Defines access rights for a community entry to the MIB-II IP group. The possible values are *noAccess*, *readOnly*, and *readWrite*.

ICMP

Defines access rights for a community entry to the MIB-II ICMP group. The possible values are *noAccess*, *readOnly*, and *readWrite*.

UDP

Defines access rights for a community entry to the MIB-II UDP group. The possible values are *noAccess*, *readOnly*, and *readWrite*.

SNMP

Defines access rights for a community entry to the MIB-II SNMP group. The possible values are *noAccess*, *readOnly*, and *readWrite*.

Alarm Access Control

This button in the Access Control view accesses the following fields.

Index

A read-only field having two bytes in the format `Partition ID (1-1023):Entry ID (1-5)`. Only 32 partitions can be entered, each with 5 entries.

Part Hdr

Specifies access to the alarm MIB partition header section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Profile Acc

Specifies access to the alarm MIB alarm profile section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Log Acc

Specifies access to the alarm MIB alarm log section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Rec Acc

Specifies access to the alarm MIB alarm record section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Trap Acc

Specifies access to the alarm Trap Contents section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Security Access Control

This button in the Access Control view accesses the following fields.

Index

A read-only field having a two byte value in the format `Partition ID (1-1023):Entry ID (1-5)`. Only 32 partitions can be entered, each with 5 entries.

Part Hdr

Specifies access to the security MIB partition header. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Sys Profile

Specifies access to the security MIB system profile section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Root Acc

Specifies access to the security MIB root access section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Node Acc
Specifies access to the security MIB node access section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Trap Acc
Specifies access to the security MIB trap access section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Ch Profile
Specifies access to the security MIB channel profile section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Softload Acc
Specifies access to the security MIB softload section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

CPI Access
Specifies access to the security MIB CPI access section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Modem Acc
Specifies access to the security MIB modem access section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

IP Acc
Specifies access to the security MIB IP access section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

LGM Rout Acc
Specifies access to the security MIB LGM static routing table section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Voice Profile
Specifies access to the security MIB voice profile section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Cmnty Access
Specifies access to the security MIB community section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Statistics Access Control

This button in the Access Control view accesses the following fields.

Index
A read-only field giving the record index in the format `Partition ID (1-1023):Entry ID (1-5)`. Only 32 partitions can be entered, each with 5 entries.

ModuleAccess
Specifies access to the resource statistics MIB module section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

PortAccess
Specifies access to the resource statistics MIB port section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

INLAccess
Specifies access to the resource statistics MIB INL section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

ChannelAccess
Specifies access to the resource statistics MIB channel section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Ad10Access
Specifies access to the resource statistics MIB AD 10 section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Status Access Control

This button in the Access Control view accesses the following fields.

Index
A read-only field giving the record index in the format `Partition ID (1-1023):Entry ID (1-5)`. Only 32 partitions can be entered, each with 5 entries.

Node
Specifies access to the resource configuration MIB node section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Nest
Specifies access to the resource configuration MIB nest section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Slot
Specifies access to the resource configuration MIB slot section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Module
Specifies access to the resource configuration MIB generic module section. The possible values

are *noAccess*, *readOnly*, and *readWrite* (the default value).

Port
Specifies access to the resource configuration MIB port section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Bundle
Specifies access to the resource configuration MIB bundle section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

INL
Specifies access to the resource configuration MIB INL section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Channel
Specifies access to the resource configuration MIB channel section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Ad10 Port
Specifies access to the resource configuration MIB AD 10 section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Asm Port
Specifies access to the resource configuration MIB ASM port section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Rtm Port
Specifies access to the resource configuration MIB RTM port section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Lgm Port
Specifies access to the resource configuration MIB LGM port section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Dsm Port
Specifies access to the resource configuration MIB DSM port section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Hw Rsc
A read-write field that defines access rights for a community entry to the resource configuration hardware resource section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Community Access Control

This button in the Access Control view accesses the following fields.

Index
A read-only field in the format `Partition ID (1-1023):Entry ID (1-5)`. Only 32 partitions can be entered, each with 5 entries.

AccessControlMode
A read-write field having the values *`enable`*, *`disable`*, or *`erase`*. A community entry cannot be erased if it is enabled. Community entry 1.1 cannot be disabled or erased.

CommunityName
A read-write field with a default value of *`public`*.

Configuration Access Control

This button in the Access Control view accesses the following fields.

Index
A read-only field in the format `Partition ID (1-1023):Entry ID (1-5)`. Only 32 partitions can be entered, each with 5 entries.

PartHeader
Specifies access to the resource configuration MIB partition header section. The possible values are *`noAccess`*, *`readOnly`*, and *`readWrite`* (the default value).

Node
Specifies access to the resource configuration MIB node section. The possible values are *`noAccess`*, *`readOnly`*, and *`readWrite`* (the default value).

Nest
Specifies access to the resource configuration MIB nest section. The possible values are *`noAccess`*, *`readOnly`*, and *`readWrite`* (the default value).

Slot
Specifies access to the resource configuration MIB slot section. The possible values are *`noAccess`*, *`readOnly`*, and *`readWrite`* (the default value).

Module
Specifies access to the resource configuration MIB generic module section. The possible values are *`noAccess`*, *`readOnly`*, and *`readWrite`* (the default value).

Port
Specifies access to the resource configuration MIB generic port section. The possible values are *`noAccess`*, *`readOnly`*, and *`readWrite`* (the default value).

Bundle
Specifies access to the resource configuration MIB bundle section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

INL
Specifies access to the resource configuration MIB INL section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

TDMChannel
Specifies access to the resource configuration MIB TDM channel section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

FrRelay
Specifies access to the resource configuration MIB frame relay section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Ad10Port
Specifies access to the resource configuration MIB AD 10 port section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

AsmPor
Specifies access to the resource configuration MIB ASM port section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

RtmPort
Specifies access to the resource configuration MIB RTM port section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

LgmPort
Specifies access to the resource configuration MIB LGM port section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

DsmPort
Specifies access to the resource configuration MIB DSM port section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

Translation
Specifies access to the resource configuration MIB translation section. The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

HwRsc
Defines access rights for a community entry to the resource configuration hardware resource MIB section (recfHwRsc). The possible values are *noAccess*, *readOnly*, and *readWrite* (the default value).

CPI/Modem Access Control

The Craft Person Station/Modem Access Control Configuration view contains two areas, CPI Port Configuration and Modem Port Configuration. These areas let you set the CPI port and modem port configurations.

CPI Port Configuration

This area of the Craft Person Station/Modem Access Control Configuration view contains the following fields.

CpiControl
A write-only field having a value of *resetCpiPort* or *logoff*. *logoff* terminates a session that was enabled by entering a password. If password control is disabled, the command will do nothing. *resetCpiPort* loads the new CPI port settings. As a side effect, the current session will be logged off.

CpiControlUpdate
A read-only field having a value of *loaded* or *resetReq* (the default value).

CpiSpeed
A read-write field that sets the speed in units of bps. The possible values are *a2400*, *a4800*, *a9600* (the default value), *a14400*, and *a19200*.

CpiDataBits
A read-write field having a value of *b7* or *b8* (the default value).

CpiParity
A read-write field having a value of *noParity* (the default value), *even*, or *odd*.

CpiStopBits
A read-write field having a value of *b1* (the default value) or *b2*.

Modem Port Configuration

This area of the Craft Person Station/Modem Access Control Configuration view contains the following fields.

ModemControl
A write-only field having a value of *enableCpsSession*, *resetModemPort*, or *logoff*. *logoff* terminates a session that was enabled by entering a password. If password control is

disabled, the command will do nothing. *resetModemPort* loads the new CPI port settings. As a side effect, the current session will be logged off. *enableCpsSession* switches the modem port from SLIP mode to CPI mode. The mode will be changed back to SLIP after a nodal power cycle or a reset modem port command.

ModemControlUpdate
A read-only field having a value of *loaded* or *resetReq* (the default value).

ModemSpeed
A read-write field that sets the speed in units of bps. The possible values are *a2400*, *a4800*, *a9600* (the default value), *a14400*, and *a19200*.

ModemDataBits
A read-write field having a value of *b7* or *b8* (the default value).

ModemParity
A read-write field having a value of *noParity* (the default value), *even*, or *odd*.

ModemStopBits
A read-write field having a value of *b1* (the default value) or *b2*.

ModemControlLead
A read-write field having a value of *eIA* or *noEIA*.

Root Node IP Access Information

This view contains read-only fields that display the IP Control Update status and WAN IP address. The view also displays the IP online subnet address information.

Root Node IP Access Config

This view provides address information for the IP offline subnet configuration and the following fields.

WAN Ip Address
A read-only field giving the WAN IP address.

IP SubNetwork Mask
The network ID mask for ST-50 network.

Root Gateway IP
The root node Ethernet port IP address.

Root Gateway Mask
The network mask for root node's Ethernet port. This is the mask for the user device's IP network.

Root Gateway Ethernet
A read-write field that specifies the Ethernet protocol of the user device's IP network. The

possible values are *e802d3* or *ethernetII* (the default value).

Default Ext Gateway
The default gateway IP address used by the root.

Slip Address
The IP address of the SLIP interface on the modem port.

Slip Mask
The IP mask of the SLIP interface on the modem port.

ST1kModuleApp

This application provides access to slot, NCP, and port status information.

The Icon Subviews menu for this application provides access to the device specific views listed below.

- Slot Configuration on Page 47 provides slot condition and type information.
- Slot Status on Page 53 provides slot format and status information.
- NCP Module Status on Page 54 provides NCP module address and version information.
- NCP Flash PROM Status on Page 54 provides NCP module flash PROM address, type, and version information.
- Port Status Administration on Page 55 provides condition, loopback, and signal status information.

Slot Configuration

This view provides the fields described below. Some fields are read-write and can be changed by double-clicking them and making the changes in the ensuing Detail view.

Slot Address

A read-only value for the slot address.

Start Mode

The possible modes are *automatic*, *off*, and *erase*. Setting this field to *erase* will fail if any of the following conditions are true: (1) the module's redundant mode is set to one-to-one redundancy; (2) the module has any unremoved INLs; (3) the module has any channels that are not disconnected; and (4) there is hardware present in the slot and the module is in an active or standby state or is going into an active or standby state (i.e., is initializing or loading). Otherwise, *erase* will erase the module configuration and all of the ports, bundles, INLs, and channels on the module.

Update
A read-only field that displays either *loaded*, *updateReq*, or *resetReq*.

Module Desc
Text that describes the slot.

Module Type
Set to *ncp*, *lxm*, *rxm*, *t1m*, *e1m*, *sgm*, *lgm*, *asm*, *fsm*, *sdm*, *rtm*, *brm*, *dsm*, *e3m*, or *vfm*.

ModuleSubType
A number that represents one of the following module types.

For NCP modules

NCP-1 = 1, NCP-2 = 2, NCP-3 = 3

For FSM modules

FSM-16 = 1, FSM-64 = 2

For T1M modules

T1M-4/DS1 = 1, T1M-4/DSX-1 = 2,

T1M-2/DS1 = 3, T1M-2/DSX-1 = 4

For E1M modules

E1M-4/Ubal = 1, E1M-4/Bal = 2,

E1M-2/Ubal = 3, E1M-2/Bal = 4.

For SDM modules

SDM-8/V.35 = 1, SDM-8/V.11 = 2,

SDM-8/V.24 = 3, SDM-8E/V.35 = 5,

SDM-8E/V.11 = 6, SDM-4R/V.35 = 7,

SDM-4R/V.11 = 8, SDM-4R/E1-Bal = 33,

SDM-4R/E1-Ubal = 34, SDM-4/64K-Co = 40,

SDM-4R = 42

For SGM modules

SGM-1 = 1, SGM-1/128K = 3

SGM-1/19.2K = 4

For ASM modules

ASM-16 = 1, ASM-16A = 2, ASM-16C = 3, ASM-16A/100 = 4, ASM-16C/100 = 5

For LGM modules

LGM-2 = 1

For DSM modules

DSM-1 = 1

For E3M modules

E3M-1 = 1, E3M-2 = 2

For BRM modules

BRM-8/U = 1, BRM-8/S = 2, BRM-4/U = 3, BRM-4/S = 4

Redundant Mod

Server modules always have group redundancy regardless of the value of this field. The default value is *none* for I/O modules and *group* for server modules. The other possible value is *one-to-one*.

Group ID

An integer value from *1* through *64*. This field applies to server modules only for group redundancy.

MaxBypass

The FSM or DSM module bypassing capability in terms of percentage (0 to 100).

MaxSource

The FSM module termination capability in terms of percentage (0 to 100).

StartDiagMask

This mask allows a module to be online or standby even though some items as marked by the mask have failed startup diagnostics. For all tests, a bit set 1 means the module will not operate if the corresponding startup diagnostic has failed. For all test descriptions, bit 1 refers to the least significant bit of the lowest byte in the octet string. The bit descriptions are as follows:

- Startup diagnostics mask bits for the NCP are listed below.
  NOTE: Additional tests for the NCP are defined in **StartDiagMaskExt** in the Details view. NCP will ignore bits 1, 3, 4, 7, 8, 10-15, and 25-31. Bit 24 is no longer used as of revision 2.0.1.

Bit	Attribute	Bit	Attribute
1	ID PROM	17	E1M RTS
2	LAN RAM	18	FSM RTS
3	Mailbox RAM	19	MIB schema
4	Frame RAM	20	SDM RTS
5	CPI port	21	SGM RTS
6	Modem port	22	ASM RTS
7	ABPI	23	RTM RTS
8	unexp interrupt	24	Utility
9	Ethernet chip	25	Boot PROM
10	DBPI	26	Flash PROM map
11	PARB	27	NCP image
12	Security MIB Db	28	Ticker
13	Resource MIB Db	29	DRAM
14	Alarm MIB Db	30	reserved
15	Database version	31	Clock
16	T1M RTS	32	reserved

- Startup diagnostics mask bits for the SDM
  1 = Register access, 2 = Ticker, 3 through 32 = reserved
- Startup diagnostics mask bits for the FSM
  1 through 24 = reserved, 25 = INL test, 26 = Ticker, 27 through 32 = reserved
- Startup diagnostics mask bits for the DSM
  1 through 24 = reserved, 25 = INL test, 26 = Ticker, 27 through 32 = reserved
- Startup diagnostics mask bits for the SGM are listed below:
  1 = RAM 1 time slot sync drop

  2 = RAM 1 time slot sync add

  3 = RAM 2 time slot sync drop

  4 = RAM 2 time slot sync add

  5 = SGM frame RAM bank 0

  6 = SGM frame RAM bank 1

  7 = AGM frame RAM bank 0

  8 = AGM frame RAM bank 1

  9 = Pointer control RAM

  10 = Function RAM

  11-16 = reserved

  17 = Phasor

  18-24 = reserved

  25 = FIFO

  26-32 = reserved
- Startup diagnostics mask bits for the RTM
  1 = RTM DSP RAM, 2 = RTM SCC Chip, 3 through 32 = reserved
- Startup diagnostics mask for the LGM:
  1 = SIM load, 2 = SOM load, 3 = SAM load, 4 = scanner load, 5 = DSP load, 6 through 32 = reserved
- Startup diagnostics mask for the E3M
  1 = E3M RAM, 2 through 32 = reserved

There are no startup diagnostics mask bits for the T1M, E1M and BRM. The default is to ignore all tests. The default value is *00000000*.

BgDiagMask

This mask allows a module to be online or standby even though some items as marked by the mask have failed background diagnostics. For all tests, a bit set to 1 means the module will not operate if the corresponding hardware is not working. For all test descriptions, bit 1 refers to the least significant bit of the lowest byte in the octet string.

- Background diagnostics mask bits for NCP are listed below.

  NOTE: Additional tests for the NCP are defined in **BgdDiagMaskExt** in the Detail view. NCP will ignore bits 1, 28, and 30. These tests will always cause hard errors if they fail.

Bit	Attribute	Bit	Attribute
1	ID PROM	22	ASM RTS
2-11	reserved	23	RTM RTS
12	Security MIB Db	24	Utility
13	Resource MIB Db	25	Boot PROM
14	Alarm MIB Db	26	Flash PROM map
15	Db version no.	27	NCP image
16	T1M RTS	28	Bus frame
17	E1M RTS	29	reserved
18	FSM RTS	30	PLL
19	MIB schema	31	reserved
20	SDM RTS	32	Code guard
21	SGM RTS		

- Background diagnostics mask bits for FSM
  1 = reserved, 2 = Buffer pool, 3 through 32 = reserved
- Background diagnostics mask bits for DSM
  1 = reserved, 2 = Buffer pool, 3 through 32 = reserved

There are no background diagnostics for the T1M, E1M, E3M, SDM, SGM, RTM, LGM and BRM. The default is to ignore all tests. The default value is *00000000*.

PortDiagMask

This mask allows a module to be online or standby even though some items as marked by the mask have failed port startup diagnostics. For all tests, a bit set 1 means the module will not operate if the corresponding diagnostics has failed. Each byte indicates the diagnostic mask of a port.

- For T1M and E1M ports
  1 = (lsb of each byte) Register access, 2 = Loopback, 3 = HDLC, 4 through 8 = reserved
- For FSM ports
  1 = (lsb of each byte) HDLC, 2 through 8 = reserved
- For DSM ports:
  1 = (lsb of each byte) HDLC, 2 through 8 = reserved
- For RTM ports:
  1 = (lsb of each byte) Loopback, 2 through 8 = reserved
- For E3M ports, Octets 1 and 2 are for ports 1 and 2

1 = (lsb of each byte) Register accesses, 2 = port Loopback, 3 through 8 = reserved

There are no port diagnostics for NCP, SDM, SGM, and BRM. The default is to ignore all tests.

The following additional fields are found in the Detail view.

StartDiagMaskExt

This mask allows a module to be online or standby even though some items as marked by the mask have failed startup diagnostics. For all tests, a bit set to 1 means the module will not operate if the corresponding hardware is not working. For all test descriptions, bit 1 refers to the least significant bit of the lowest byte in the octet string.

- Startup diagnostics mask bits for the NCP. NOTE: This is a continuation of the tests defined for the NCP in **StartDiagMask**.

  1 = DSM RTS, 2 = LGM RTS, 3 = E3M RTS, 4 = BRM RTS, 5 = checksum for dynamic allocation database, 6 = VFM RTS, 7 through 32 = reserved

Currently, this attribute is not used for any other module type except the NCP (that is, all bits are reserved for the other module types).

BgDiagMaskExt

This mask allows a module to be online or standby even though some items as marked by the mask have failed background diagnostics. For all tests, a bit set 1 means the module will not operate if the corresponding hardware is not working. For all test descriptions, bit 1 refers to the least significant bit of the lowest byte in the octet string.

- Background diagnostics mask bits for NCP NOTE: This is a continuation of the tests defined for the NCP in **BgdDiagMask**.

  1 = DSM RTS, 2 = LGM RTS, 3 = E3M RTS, 4 = BRM RTS, 5 = checksum for dynamic allocation database, 6 = VFM RTS, 7 through 32 = reserved

Currently, this attribute is not used for any other module type except the NCP (that is, all bits are reserved for the other module types).

DiagnoseMode

Used to control module-specific code for diagnosing problems. The interpretation of values for this field is determined by the specific type of module in the slot. The value *0* (the default value) means normal operation for all module types.

Slot Status

The Slot Status Administration view contains the following fields.

Slot Address
A read-only field displaying the slot address.

Failure Type
If **Status** is *fail*, this field indicates what type of failure occurred. *not applicable* is displayed if the module status is not *fail*. *no RTS* means that the module's runtime software is not on the NCP flash.

Status
A read-only field that displays either *active*, *standby*, *fail*, *removed*, *busDisable*, *loading*, or *initializing*.

Condition
A read-only field that displays either *normal* or *exception*.

SWModuleType
Displays the operation mode of the module (usually the same as the module hardware type).

SWSubType
Same possible values as the **ModSubType** field in the Slot Configuration view.

ModuleIDFormat
A read-only integer value.

HWModuleType
The type of hardware module either *ncp*, *lxm*, *rxm*, *t1m*, *e1m*, *sgm*, *lgm*, *asm*, *fsm*, *sdm*, *rtm*, brm, *dsm*, *e3m*, or *vfm*.

HWModuleSubType
Same possible values as the **ModSubType** field in the Slot Configuration view.

ModuleAssemblyNum
A read-only field.

Slot Address
A read-only field.

Revision
A read-only field.

Serial Num
A read-only field.

DateMode
A read-only field.

ActiveRedundant
A read-only field.

SWRevision
A read-only field.

StartupDiagResults
Each bit displays the result (pass/fail) of a startup diagnostic. The bit map for the first four bytes is defined in **StartDiagMask**. The bit map for the last four bytes is defined in **StartDiagMaskExt**.

BgDiagResults
Each bit displays the result (pass/fail) of a background diagnostic. The bit map for the first four bytes is defined in **BgdDiagMask**. The bit map for the last four bytes is defined in **BgdDiagMaskExt**.

NumActivePorts
The number of ports on this module that have a **PortStatus** value of *active*.

NumNormalPorts
The number of ports on this module that have a **PortStatus** value of *normal*.

NCP Module Status

This view provides the following fields.

Addr
A read-only field giving the slot address.

Boot Prom Revision
A read-only field.

MacAddr
A read-only field.

Flash Object Versions
A read-only field. The information in this field has been replaced by the restNcpFlashTable section of the MIB. For each module type whose runtime software is stored in the NCP flash PROM, this field displays the software type (2 bytes), CRC (2 bytes), and version number (4 bytes). The values for software type match the enumerations for the **Softload Software Type** field in the view Partition and Softload Administration on Page 25 found in the St1kNodeApp. If the flash PROM of the NCP cannot currently be read (such as when a softload is in progress), this field displays eight bytes with all zeros.

NCP Flash PROM Status

This view provides the following fields.

Flash Index
Used to differentiate the different module object files in the NCP flash PROM. This field does not contain any information about the file in flash.

Flash Address
The address of the NCP.

Module Type
The possible values are *ncp*, *t1m*, *e1m*, *sgm*, *lgm*, *asm*, *fsm*, *sdm*, *rtm*, *brm*, *dsm*, *e3m*, or *vfm*.

Recovery Indicator
Indicates whether this object file is stored in the softload recovery area. The possible values are *recovery* or *normal*.

Compress Indicator
Indicates whether this object file is *compressed* or *uncompressed*.

FileVersionNumber
The software revision number of this module object file.

FileSize
The size of the module object file in bytes.

FileStoredCrc
The stored CRC of this module object file.

FileCrcCheck
If *pass* is displayed, the file image in flash passed a CRC check. If *fail* is displayed, the CRC check failed and the file is corrupted. If *not applicable* is displayed, there is no support for CRC checking for this file on this NCP.

Port Status Administration

This view provides the following fields.

Port Address
A read-only port address string.

Status
A read-only field that shows either *active*, *standby*, *maintenance*, *inactive*, or *failed*.

Substatus
A read-only field displaying one of the following values.

enabled	no bandwidth	rts detected invalid config
removed	server port disconnected	connected to test port
port reset	engine failure	invalid INL assignment
module deleted	module reset	invalid message received
disabled	out of memory	rts loopback failure
loopback	module failure	exceeded module capacity
port deleted	hardware failure	no configuration
port removed	condition change	ncp detected invalid config

undefined	inl failure	configuration download failure
no framer	bandwidth exceeded	

Condition
A read-only field that displays either *normal*, *exception*, or *undefined*.

SubCondition
A read-only field that displays one of the following values.

none	msg timeout	server loopback
red alarm	cfg mismatch	exceed power spec
yellow alarm	dnload rmt	external loopback
LMI fail	st to st	remote end reset
clock fail	los And ros	ber over fail threshold
los	notify CRC	layer2 timeOut
ros	err CRC	layer2 mismatch
pending	disruptive oper	connected to test port
oos	loss Of signal	ds0 disconnect alarm
loss Of pwr		

Port type
A read-only field that gives the port type.

LoopbackDuration
A read-write field having a value ranging from *0* to *65535*, with *65535* specifying a permanent loopback.

LoopbackStatus
If the port is in loopback, this field indicates the type of loopback. If the port is not in loopback, then *none* is displayed.

LoopbackInitiator
If this field displays *local*, loopback was initiated by a user; if *remote* is displayed, loopback was initiated by the network. If no loopback is enabled, this field displays *not applicable*.

Port Address
A read-only port address string.

Error Indication
A read-only field having a value of *set* or *clear*.

SevereIndication
A read-only field having a value of *set* or *clear*.

BGDiagResults
The results of port background diagnostics.

NumberOfBundles
This field is not applicable to the E3 port. It always displays *0*.

PhasorStatus
All *0* bits indicate normal. Abnormal bits are defined as listed below.

Bit	Meaning	Bit	Meaning
1	receive phasor underflow	9	transmit phasor underflow
2	receive phasor overflow	10	transmit phasor overflow
3	receive phasor empty	11	transmit phasor empty
4	receive phasor full	12	transmit phasor full
5	receive phasor fifo error	13	transmit phasor fifo error
6	KGROS status	14	KG status is not applicable
7	KGLOS status	15	reserved
8	receive phasor not applicable	16	transmit phasor not applicable

If the port does not have a phasor, the value will be *x8080*.

Bits 6 and 7 are applicable only to an SDM module and reflect the KG-resync lines status as listed below.

Bit 6	Bit 7	KG Status
0	0	OK disabled/disabled
1	0	ERR enabled/disabled
0	1	ERR disabled/enabled
1	1	ERR enabled/enabled

MappedPhy
For virtual port addresses, this field indicates the physical port that this address is mapped to. If the virtual port address is not mapped to a physical port, then *0.0.0* displays. For physical port addresses, this field indicates the virtual port that is mapped to this port. If no virtual port is mapped to this physical port address, then *0.0.0* is displayed.

SdmFunction
This field applies primarily to SDM ports. The bit map is:

1 = DSR if DTE, DTR if DCE

2 = DCD if DTE, RTS if DCE

3 = reserved

4 = CTS if DTE, reserved if DCE

5 = DTR if DTE, DSR if DCE

6 = RTS if DTE, DCD if DCE

7 = indicates functions are not applicable

8 = reserved if DTE, CTS if DCE

Module types and subtypes that do not support this attribute will display a value of *x40.*

SdmT Function

This field applies primarily to SDM ports. The bit map is

1 = TM if DTE, LL if DCE

2 = reserved if DTE, RL if DCE

3 = reserved

4 = reserved

5 = LL if DTE, TM if DCE

6 = RL if DTE, reserved if DCE

7 = reserved

8 = indicates test functions not applicable

Module types and subtypes that do not support this attribute will display a value of *x80*. In addition, for the SDM, test functions will be not applicable (*x80*) if KG-resync is enabled.

BundleInTone

A read-only field having a value ranging from *0* to *31*.

SdmSignalStatus

Only applies to SDM ports on modules of hardware subtypes 33 (4 ports E1 balanced) and 34 (4 ports E1 unbalanced); otherwise, it will display *notApplicable*. The possible values are *los*, *los event*, or *notApplicable*.

SdmBipolarViolationInd

Only applies to SDM ports on modules of hardware subtypes 33 (4 ports E1 balanced) and 34 (4 ports E1 unbalanced); otherwise, it will display *notApplicable*. The possible values are *event*, *no event*, *notApplicable*.

PortCapabilities
If this field is not applicable, its value is an octet string of size 1 with the value *none*. This is currently supported only by the SDM port. The interpretation of the octet string is listed below. For those capabilities specified using bit fields (module and port speed capabilities, as listed below), a value of *1* means that the feature is supported, while *0* means that it is not supported.

- First byte: physical capabilities
  01h = bulk (no separate connector for

  this port)

  02h = 15 pin connector

  03h = 25 pin connector

  04h = RJ45 (8 pin modular) connector

  05h = 75 ohm coax connector
- Second byte: electrical capabilities
  01h = V.24

  02h = V.35

  04h = V.11

  11h = E1 balanced

  12h = E1 unbalanced

  41h = 64K G.703 co-directional
- Third byte: module capabilities
  bit 1 = supports redundancy

  bit 2 = supports loopback leads (RL, LL, and TM)

  bit 3 = supports LIM/DSC

  bit 4 = supports function leads (RTS, CTS, etc.)

  bits 5-8 = indicate clock modes

  01h = supports DCE

  02h = supports DTE

  03h = supports DTE and DCE

  04h = supports DTE1 only
- Fourth byte: port speed capabilities
  bit 1 (lsb) - various (supports multiple, user-programmable data rates on the ports)

  bit 2 - supports 64 kbps

  bit 3 - supports 1.544 Mbps

  bit 4 - supports 2.048 Mbps

  bits 5-8 - reserved for future use

ST1kLgmApp

This section provides LGM port utilization, configuration, and status information and statistics.

The Icon Subviews menu for this application provides access to the device specific views listed below.

- LGM Port Administration on Page 60
- LGM Routing Table on Page 62
- LGM Resource Administration on Page 62
- LGM Translation Administration on Page 63
- LGM Module Status on Page 63
- LGM Port Status on Page 64
- LGM Port Statistics on Page 65

LGM Port Administration

This view provides the following fields.

PortAddress
A read-only field that gives the virtual port address.

StartMode
A read-write field having the value of either *automatic*, *erase*, or *off* (the default value). Setting it to *erase* will fail if the LGM port has any non-removed channels. If successful, it displays the initial port configuration (with its default values) and erases any channels defined on this port.

Update
A read-only field that gives the LGM port status. The possible values are *loaded*, *updateReq*, and *resetReq* (the default value).

Arq
A read-write field that specifies ARQ speed in bps, which may not exceed 9600, The possible values are *3200*, *6400*, and *9600* (the default value).

Group
A read-write field intended to force channels to use specific groups of LGM ports. There can be up to seven groups for each LGM port. Bit map bits 1 through 7 indicate the group(s) of the LGM. The default value is 7.

Encrption
A read-write field the determines whether encryption is used. The possible values are *encrypted* and *normal* (the default value).

SyncLevel
A read-write field that determines the synchronization level. The possible values are *level1* (the default value) and *level2*.

SyncChar
A read-write field that specifies the number of sync characters per frame. The possible values are *syncChar8* and *syncChar4* (the default value).

SatelliteHop
An integer value from *0* to *4* that specifies the number of satellite hops per end-to-end point connection. An earth station to satellite to earth station connection represents one hop. The default value is *0*.

DosTimer
A read-write value from *1* to *300* (seconds). An Out-Of-Service state will be entered if this time is exceeded. The default value is *16*.

PartitionID
A read-write value from *1* to *1023* that is used by the security server to enforce shared node.

BitMode
A read-write field that defines the bit mode of this port. The possible values are *b7Bit* and *b8Bit* (the default value).

InbandSuperrate
A read-write field that specifies how the signaling function transport for inband superrate is handled. *nack* means reject a channel connection with a no bandwidth response, so an alternative link path may be found. *forceActive* (the default value) means set all the functions active. *pass* means pass the functions the way they are set (slower than link).

InbandSubrate
A read-write field that specifies how the signaling function transport for inband subrate is handled. *nack* means reject a channel connection with a no bandwidth response, so an alternative link path may be found. *pass* (the default value) means pass the functions the way they are set (slower than link).

OutBandSuperrate
A read-write field that specifies how the signaling function transport for outband superrate is handled. *nack* means reject a channel connection with a no bandwidth response, so an alternative link path may be found. *forceActive* (the default value) means set all the functions active. *pass*

means pass the functions the way they are set (slower than link).

OutbandSubrate
A read-write field that specifies how the signaling function transport for outband subrate is handled. *nack* means reject a channel connection with a no bandwidth response, so an alternative link path may be found. *pass* (the default value) means pass the functions the way they are set (slower than link).

LGM Routing Table

This view provides the following fields.

RouteNode
The read-only routing destination node number.

Index
A read-only field that specifies a route entry number in the routing table for the given node.

StartMode
A read-write field with a value of *automatic*, *erase*, or *off* (the default value). Setting it to *off* prevents this table entry from being used on routing (invalidates it). Setting it to *erase* frees the entry.

NextlafHop
A read-write integer value from *1* to *32767* that specifies the next hop along a given route. The hops are presented in terms of Link-2 IAFs. It is the LGM port number (server type 132 without further specification of a group ID), which is local to this node.

Link2GwyMpde
A read-write field that specifies the Link-2 gateway node (node that has an LGM module) to get access into a Link-2 subnetwork.

PathDelay
A read-write integer value from *0* to *7* that defines the number of Link-2 nodes (non-ST-50 hops) to this node. ST-50 INLs are not counted.

LGM Resource Administration

This view lets you modify the LGM partition ID for a given LGM address. Each two bytes is the partition ID of a VILC aggregate on the module. Partition 1 is for CNMS. Partition 0xFFFE (65534) is for any partition. When this is changed, it will not change the current VILC allocation, but it will affect any new server ports being allocated.

LGM Translation Administration

This view provides the following fields.

Index
A read-only field that identifies the Translation table index, notated in Link-2 specific notation. This does not indicate any particular addresses, however, it must be the same value on both Link-2 and ST-50 nodes. It is a link logical entity pointing to the Translation table entry containing both Link-2 and ST-50 physical addresses.

StartMode
A read-write field with a value of *automatic*, *erase*, or *off* (the default value). Setting it to *off* prevents this table entry from being used on connection (invalidates it). Setting it to *erase* frees the entry.

StAddr
A read-only field that identifies the local ST-50 TDM channel that the Link2 channel (defined by **L2Addr**) is connected to. This is used by the ST-50 as a connection endpoint address.

L2Addr
A read-write field that identifies the Link2 address in the Link2 network that the ST-50 TDM channel (defined by **StAddr**) is connected to. If this field has the [:xch] part not equal to zero, it represents an X50 subrate address; otherwise, it is a regular address.

Functions
A read-write field with a value of *inBand*, *outBand*, or *none* (the default value). It selects the mode of functions exchange. In *inBand* mode, the same time slot as data is being used; in *outBand*, it is a separate channel.

Partition
A read-only field that displays the partition assigned to this Translation table entry. This partition is inherited from the TDM channel associated with this entry.

LGM Module Status

This view provides the following fields.

ModuleAddr
The read-only address of this LGM module. The format is `nest.slot`.

TotalSAFs
A read-only field that displays the maximum number of SAFs allowed on this LGM module.

AvailSAF
A read-only field that displays the number of SAFs that still can be allocated on this LGM

module. The number of SAFs allocated on this LGM module can be derived by subtracting the value of this field from the value of **TotalSAFs**.

TotalSCFs
A read-only field that displays the maximum number of SCFs allowed on this LGM module.

AvailSCFs
A read-only field that displays the number of SCFs that still can be allocated on this LGM module. The number of SCFs allocated on this LGM module can be derived by subtracting the value of this field from the value of **TotalSCFs**.

LGM Port Status

This view provides the following fields.

PortAddress
A read-only field displaying the LGM port virtual address, in the format `type:group:port`.

LocalBERQuality
The read-only field displaying the local bit error quality, which can have a value of *notAvailable*, *pend*, *poor*, *fair*, *good*, or *veryGood*.

BERWindowFill
A read-only value, e.g., *10/32*, *5/32*. and so forth.

RemoteNodeID
A read-only number indicating the node that the LGM terminates on. If no remote connection has been established, this field displays *0*.

RemotePortAddr
A read-only field displaying the address of the port or bundle that the LGM terminates on. If no remote connection has been established, this field displays *0*.

RemoteBERQuality
A read-only remote bit error quality value, which can be *notAvailable*, *pend*, *poor*, *fair*, *good*, or *veryGood*.

RemoteRevision
A read-only value indicating the revision level on the remote node.

AvailableBw
The available bandwidth in bps.

UsedBw
The bandwidth used in bps.

NumCh
The number of TDM channels.

LgmPort
The physical address of the LGM port.

LinkSpeed
The link aggregate port speed in bps.

SyncState
A read-only field displaying the status of this LGM port synchronization state. The possible values are *inSync*, *los*, *ros*, or *losAndRos*.

LGM Port Statistics

This view provides the following fields.

LgmAddr
The read-only address of the LGM port in the format `type:group:port`.

BadSync
The number of bad sync counts received.

OosCount
The number of out of sync conditions.

FrameSent
The number of frames transmitted.

FrameRecd
The number of frames received.

FrameReTx
The number of frames transmitted.

FrameNak
The number of NACKs sent.

SabmSent
The number of SABMs sent.

sabmRecd
The number of SABMs received.

RnrSent
The number of Receiver_Not_Readys sent.

RnrRecd
The number of Receiver_Not_Readys received.

ST1kFsmApp

This application provides FSM module status information.

The Icon Subviews menu for this application provides access to the device specific views listed below.

- FSM Module Status on Page 66 provides information about resource availability on FSMs in a node.
- FSM-16 Resource Administration on Page 68 provides information about resource availability on FSM 16 modules in a node. This view lets you sort, find, and update the FSM 16 address and partition.
- FSM-64 Resource Administration on Page 68 provides information about resource availability on FSM 64modules in a node. This view lets you sort, find, and update the Fsm 64 address and partition.

FSM Module Status

This view provides the following fields.

Fsm Address
A read-only field.

Bypass Bandwidth
The maximum available bypass capability, in packets. Bypass capability is limited by **Bandwidth Avail**.

Bandwidth Avail
FSM available processing capability to serve new termination or bypass channels, in packets. This may be less than the sum of **Bypass Bandwidth** and **Source Bandwidth**.

Source Bandwidth
The maximum available termination capability, in packets. Termination capability is limited by **Bandwidth Avail**.

Port Speed Avail
FSM available port speed capability, in bps. This only indicates the capability to support termination channels.

Dlci Total
The total number of DLCIs permitted on this FSM module.

Dlci Avail
The number of DLCIs that can still be connected on this FSM module. The number of DLCIs that are connected on the module can be determined by subtracting this value from **Dlci Total**.

Dlci Config
The number of DLCIs that are configured on frame relay ports allocated to this FSM module. A new FSM port cannot be allocated on this module if the number of DLCIs configured on the port plus the value of this field exceeds the value of **Dlci Total**. For FSM ports that are currently allocated, new DLCIs that are configured will increment the value of this field. In this case, the value of this field will be allowed to exceed **Dlci Total** so that existing channel connections will not be disrupted. However, the new DLCIs cannot be connected when **Dlci Avail** is zero.

Byp Chan Total
The total number of bypass channels permitted on this FSM module.

Byp Chan Avail
The number of bypass channels that can still be connected on this FSM module. The number of bypass channels that are connected on the module can be determined by subtracting the value of this field from **Byp Chan Total**.

Cir Total
The total Commit Information Rate (CIR) on this FSM module.

Cir Avail
The available (unused) CIR on this FSM module.

Vci Ctr Blk Total
The total number of Vci control blocks allowed on this FSM module. Each DLCI terminated on the module requires one Vci control block. Each bypass channel on the module requires two Vci control blocks.

Vci Ctrl Blk Avail
The number of available (unused) PVCs on this FSM module. Each DLCI terminated on the module requires one Vci control block. Each bypass channel on the module requires two Vci control blocks.

Total Buffers
The total number of channel buffers on this FSM module.

Buffer Avail
The number of available (unused) channel buffers on this FSM module.

FSM-16 Resource Administration

This view provides the following fields.

Fsm16Addr
The module address of the FSM-16.

Fsm16Partition
Each two bytes is the partition ID of a physical port on the module. Partition 1 is for CNMS. Partition 0xFFFE (65534) is for any partition. When this is changed, it will not change the current port allocation but it will affect any new server ports being allocated.

FSM-64 Resource Administration

This view provides the following fields.

Fsm64AddrSYNTAX SlotAddr
The module address of the FSM-64.

Fsm64Partition
Each two bytes is the partition ID of a physical port on the module. Partition 1 is for CNMS. Partition 0xFFFE (65534) is for any partition. When this is changed, it will not change the current port allocation, but it will affect any new server ports being allocated.

ST1kSgmApp

This application provides utilization and status information for the SGM/AG module and its ports.

The Icon Subviews menu for this application provides access to the device specific views listed below.

- SGM/AG Resource Administration view lets you sort, find, and update partition information for each SGM/AG address. The partition ID of a physical port on the module is defined in two bytes. Partition 1 is for CNMS. Partition 0xFFFE (65534) is for any partition. When this is changed, it will not change the current port allocation but will affect any new server ports being allocated.
- Sgm/Ag Module Status on Page 69
- SAF Status Administration on Page 70

Sgm/Ag Module Status

This view provides the following fields.

Sgm/Ag Address
A read-only field displaying the address of the SGM/AG module.

Sgm/Ag Port Avail
The number of AGM ports that are available for use on this SGM/AG module.

Agm Port Total
The total number of AGM ports that are on this SGM/AG module.

Saf Avail
The number of SAF ports that are available for use on this SGM/AG module.

Saf Total
The total number of SAF ports that are on this SGM/AG module.

Sgm Scf Avail
The number of SGM SCF ports that are available for use on this SGM/AG module. If the software type of the module is AGM, *0* is displayed.

Sgm Scf Total
The total number of SGM SCF ports that are on this SGM/AG module. If the software type of the module is AGM, *0* is displayed.

Agm Scf Avail
The number of AGM SCF ports that are available for use on this SGM/AG module. This value is valid for both SGM and AGM module software types.

Agm Scf Total
The total number of AGM SCF ports that are on this SGM/AG module. This value is valid for both SGM and AGM module software types.

SAF Status Administration

This view provides the following fields.

Addr
The SAF address.

Seq Num
The SAF channel number.

Src Node
The source node of the channel.

Src Addr
The source channel address.

Dest Node
The destination node of the channel.

Dest Addr
The destination channel address.

SAF Port Administration

Accesses the SAF Port Administration view, which contains the following fields.

Address
A read-only field showing the SAF address.

Status
Indicates whether the SAF is synchronized or currently in the middle of a frame switch.

SubStatus
If **Status** indicates an out of syncronization condition, this field indicates if it is due to an error or not. If **Status** indicates an in syncronization condition or if the port is in the middle of a frame switch, this field displays *noError*. The possible values are *noError* and *syncError*.

RemoteNode
The node in which the remote side of this SAF connection resides.

RemoteAddr
The address of the remote side of this SAF connection.

InlNumber
The local INL number (from *1* to *32*) that this SAF is located on. *32* displays for a local SAF.

BandwidthAvail
The available (unused) bandwidth in this SAF according to the NCP.

NumChannels
The number of subrate channels currently connected through this SAF according to the NCP.

HWPhasorStatus
Always displays *x8080*, which means not applicable.

SWPhasorStatus
Always displays *x8080*, which means not applicable.

ModNumChannels
The number of subrate channels currently connected through this SAF according to the module that this endpoint of the SAF resides on.

BandwidthAvail
The available (unused) bandwidth in this SAF according to the module that this endpoint of the SAF resides on.

FrameSwitchLocation
If a frame switch is currently occurring on this SAF, this field indicates the location of that frame switch. The value is a sum with an initial value of *0*. For each possible frame switch location “L” in the range 1 to 2, the value 2 raised to (L - 1) is added to the sum if there is a frame switch in that location. The possible frame switch locations are 1 = add bus and 2 = drop bus. Thus, if there is a frame switch on the add bus, the value would be *1*. If there is a frame switch on the drop bus, the value would be *2*. If there is a frame switch on both the add and the drop busses, the value would be *3*. If there is no frame switch occurring, the value would be *0*, indicating no frame switch locations.

RemoteStatus
The view of the remote endpoint of SAF from the module that this endpoint of the SAF resides on. The possible values are *inService* and *outofService*.

SyncErrors
The number of sync errors on this SAF.

OosErrors
The number of oos errors on this SAF.

PhasorStatus
The status of the phasor for this SAF.

- The first octet is used to indicate transmit phasor status. The bits are interpreted as described below. (Bit 1 is the least significant bit of the octet.)
  - bit 1: phasor underflow
  - bit 2: phasor overflow
  - bits 3-6: unused
  - bit 7: software phasor (if clear, hardware phasor)
  - bit 8: phasor not applicable
- The second octet is used to indicate receive phasor status. The bits are interpreted as described below. (Bit 1 is the least significant bit of the octet.)
  - bit 1: phasor underflow
  - bit 2: phasor overflow
  - bits 3-6: unused
  - bit 7: software phasor (if clear, hardware phasor)
  - bit 8: phasor not applicable

For both phasors (receive and transmit), if the phasor is OK, the octet will be set to *0* for a hardware phasor or *x40* for a software phasor. If there is no phasor of that type (receive or transmit), the octet will be set to *x80*. If the SAF does not support any phasors, the value for this field will be *x8080*.

ST1kAd10App

This application provides AD 10 AGM port, voice port, data port, and packet band configuration, status, and statistics information.

The Icon Subviews menu for this application provides access to the device specific views listed below.

- AD 10 Configuration Administration on Page 73
- AD 10 Status Administration on Page 77
- AD 10 Statistics on Page 85

AD 10 Configuration Administration

This view is divided into the following four areas:

- AGM Port Administration on Page 73
- Voice Port Administration on Page 74
- Data Port Administration on Page 75
- Packet Band Administration on Page 75

Each of these areas is described below.

AGM Port Administration

This area of the AD 10 Configuration Administration view provides the following fields.

Addr
A read-only field giving the port address.

StartMode
A read-write field having a value of *automatic*, *erase*, or *off* (the default value).

Update
A read-only field having a value of *loaded* or *resetReq* (the default value).

PortSpeed
A read-write field having a value of *b19200*, *b56000*, *b64000* (the default value), or *b128000*. The 19.2 kbps speed (*b19200*) is not supported on SGM/AG modules with a hardware subtype of 1 or 3. The 56 kbps speed is not supported on SGM/AG modules with a hardware subtype of 3 or 4. The 128 kbps speed is not supported on

SGM/AG modules with a hardware subtype of 1 or 4.

PortDef
A read-only field that defines AD 10 port usage. Each octet indicates an AD 10 port type as follows: *FF* for not defined, *1* for data, *2* for voice, and *3* for packet band.

PartitionID
A read-write integer value of *1* to *1023*.

Voice Port Administration

This area of the AD 10 Configuration Administration view provides the following fields.

Addr
The AD 10 port address.

StartMode
A read-write field having a value of *automatic*, *erase*, or *off* (the default value).

Update
A read-only field having a value of *loaded* or *resetReq* (the default value). If *resetReq* is displayed, you must reset the AD 10 data port.

PhysSlot
A read-write value from *1* to *8*.

PhysPort
A read-write value equal to *1*, *2*, *3*, or *4*.

DBAMode
A read-write field having a value of *enabled* or *disabled* (the default value).

CompressMode
A read-write field having a value of *atc* or *tCelp* (the default value).

FaxMode
A read-write field having a value of *faxIIIenable-NSFenable*, *faxIIIenable-NSFdisable*, or *faxIIIdisable-NSFdontcare* (the default value).

Speed
A read-write field giving the compressed channel data rate for this AD 10 voice port. The possible values are listed below, with the default being *disabled*.

b5333	b7200	b7466	b8000
b8533	b9066	b9600	b10133
b10666	b11200	b11733	b12266
b12800	b13333	b13866	b14400
b14933	b15466	b16000	b16533
b17066	b17600	b18133	b18666

b19200	b19733	b20266	b20800
b21333	b21866	b22400	b22933
b23466	b24000	b24533	b25066
b25600	b26133	b26666	b27200
b27733	b28266	b28800	b29333
b29866	b30400	b30933	b31466
b32000	disabled		

For ports using a CELP compression algorithm, only speeds of 5.333 Kbps, 7.2 Kbps, 8 Kbps, and 9.6 Kbps are supported.

For ports using the ATC compression algorithm, only the speeds between 7.466 Kbps and 32 Kbps are supported.

Data Port Administration

This area of the AD 10 Configuration Administration view provides the following fields.

Addr
The AD 10 port address.

StartMode
A read-write field having a value of *automatic*, *erase*, or *off* (the default value).

Update
A read-only field having a value of *loaded* or *resetReq* (the default value). If *resetReq* is displayed, you must reset the AD 10 data port.

PhysSlot
A read-write value equal to *a*, *b*, *c*, or *d*.

PhysPort
A read-write value equal to *1*, *2*, *3*, or *4*.

TDMDataRate
A read-write value equal to *b1200*, *b2400*, *b4800*, *b7200*, *b9600*, *b12000*, *b14400*, *b16000*, *b16800*, *b19200*, *b24000*, *b28800*, *b32000*, *b38400*, *b48000*, *b56000*, or *disabled* (the default value).

Type
A read-write value equal to *tdm-sync*, *stat-mux-async*, *bisync*, or *hdlc*.

Packet Band Administration

This area of the AD 10 Configuration Administration view provides the following fields.

Addr
The AD 10 port address.

StartMode
A read-write field having a value of *automatic*, *erase*, or *off* (the default value).

Update
A read-only field having a value of *loaded* or *resetReq* (the default value). If *resetReq* is displayed, you must reset the AD 10 data port.

MinBaudRate
A read-write field having one of the values listed below. The default value is *b9600*.

b1200	b1334	b1600	b1867
b2000	b2134	b2400	b2667
b2800	b3200	b3600	b3734
b4000	b4267	b4667	b4800
b5334	b5600	b6000	b6400
b7200	b7467	b8000	b8400
b9334	b9600	b1066	b1120
b1200	b1280	b14000	b14400
b14934	b16000	b16800	b18000
b18667	b19200	b21334	b22400
b24000	b25200	b28000	b28800
b29867	b32000	b33600	b36000
b37334	b38400	b42000	b44800
b48000	b50400	b56000	b57600
b64000	b67200	b72000	b74667
b84000	b89600	b96000	b100800
b112000	b115200	b126000	b128000

This field is ignored if **DBAMode** is set to *enabled*. In this case, the actual baud rate will be dynamically based on the unused bandwidth of the AD 10 aggregate.

DBAMode
A read-write field having a value of *enabled* or *disabled* (the default value).

AD 10 Status Administration

This view contains the following three areas:

- Packet Band Status on Page 77
- Agm Port Status on Page 77
- AD 10 Data/Voice Port Status on Page 79

Packet Band Status

This area of the AD 10 Status Administration view provides the AD 10 port address and a series of read-only counters for each address. The counter fields are: TxTotFrame, RxTotFrame, RxSCCOvrRun, TxSCCUndRun, RxSCCAbort, RxInvDlci, RxFrOvrSiz, and RxCrcErr.

Agm Port Status

This area of the AD 10 Status Administration view contains buttons that access more AD 10 status and configuration information. The fields accessed by these buttons are described below.

CP Port Configuration

This button within the Agm Port Status area of the AD 10 Status Administration view provides access to the following fields.

Addr
The AD 10 port address.

Speed
A read-only field having a value of *a300*, *a1200*, *a2400*, or *a9600*.

CpTermType
A read-only field giving the console terminal type as either *ascii* or *vt100*.

CpMode
A read-only field giving the console pass through mode as either *enabled* or *disabled*.

Status Information

This button within the Agm Port Status area of the AD 10 Status Administration view provides access to the following fields.

Addr
The AD 10 port address.

Date
The date in the format mm/dd/yyyy.

Time
The time in the format hh:mm:ss.

VerLabel
A read-only field giving the version in the format Vxx.yy DATE:mm-dd-yy. The date is a date stamp on the version number.

UnitType
A read-only field having a value of *atixSt50*, *accessPlus*, *ad10*, or *universalType*.

HWconfig
The AD 10 hardware configuration map. For each port on the AD 10 there is a one-byte port type field followed by a five-byte user port address. The port type field can have the following values:

- 0x01: control processor
- 0x11: packet band
- 0x20: IOP data port
- 0x22: hybrid data module (HDM) data port
- 0x23: expansion data module (EDM) data port
- 0x32: VF51-64K VFAX
- 0x40: V.35/RS422 network port
- 0x41 V.11 network port

The user device port address will be an ASCII string displaying the port address as seen from the back panel of the AD 10. The index for the table is a virtual port address in the range 1 to 64.

Configuration Download Status Information

This button within the Agm Port Status area of the AD 10 Status Administration view lets you determine the status of the tdmMuxSwitch command as either *active* or *inactive*.

Network Port Status Information

This button within the Agm Port Status area of the AD 10 Status Administration view lets you determine the AD 10 network port interface and port clock. The possible port interface values are *rs232*, *v35*, *rs422*, and *v11*. The possible clock values are *external*, *slave*, or *internal*.

Softload Status Information

This button within the Agm Port Status area of the AD 10 Status Administration view provides access to the following fields.

Addr
The AD 10 port address.

Status
The current AD 10 softload status. The possible values are *softloading*, *success*, *idle*,

responseTimeout, *resetTimeout*, *infoIncorrect*, and *ad10LinkDown*.

FileSize
The total number of bytes to be softloaded. If no softloading is in progress, the value is *0*.

Transferred
The number of bytes that have been transferred. If no softloading is in progress, the value is *0*.

StartTime
Indicates when the softload of this AD 10 unit was started. The value is the number of seconds since midnight on January 1, 1970. A value of *0* means that the softload start time is not applicable.

CompletionTime
Indicates when the softload of this AD 10 unit was completed. The value is the number of seconds since midnight on January 1, 1970. A value of *0* means that the softload start time is not applicable.

AD 10 Data/Voice Port Status

This area in the AD 10 Status Administration view contains two buttons that access the information described below.

Data Port Status

This button provides access to the following fields.

Addr
The AD 10 port address.

Mode
A read-write field that can be set to *offline*, *online*, *disableDiagnostics*, *bertTowardSubscriber*, *bertTowardNetwork*, *loopSubscriber*, or *loopNetwork*.

IntfType
A read-only field that displays the interface type. The possible values are *rs232*, *v35*, *rs422*, and *v11*.

ClockMode
A read-write field that displays the clock mode. The possible values are *notApplicable*, *internal*, *external*, *txExternal*, and *derived*. Only TDM sync can use a value of *derived*. If the port is async, *notApplicable* will be displayed. *notApplicable* should not be set.

CtsOOS
A read-write field that displays the CTS service condition. The possible values are *forceOff*, *forceOn*, and *freeze*.

CtsSig
A read-write field that displays the CTS setup. The possible values are *forceOff*, *forceOn*, *loopLocalRts*, *loopLocalDtr*, *rts*, *dtr*, *rtsAndDtr*, and *rtsOrDtr*.

DcdOOS
A read-write field that displays the DCD service condition. The possible values are *forceOff*, *forceOn*, and *freeze*.

DcdSig
A read-write field that displays the DCD setup. The possible values are *forceOff*, *forceOn*, *loopLocalRts*, *loopLocalDtr*, *rts*, *dtr*, *rtsAndDtr*, and *rtsOrDtr*.

DsrOOS
A read-write field that displays the DSR service condition. The possible values are *forceOff*, *forceOn*, or *freeze*.

DsrSig
A read-write field that displays the DSR setup. The possible values are *forceOff*, *forceOn*, *loopLocalRts*, *loopLocalDtr*, *rts*, *dtr*, *rtsAndDtr*, or *rtsOrDtr*.

RtsLoopDelay
The RTS loopback delay, in milliseconds.

DrtLoopDelay
The DRT loopback delay, in milliseconds.

AsyncDataBit
A read-write field giving the asynchronous data bits configuration. The possible values are *b5bit*, *b6bit*, *b7bit*, and *b8bit*.

AsyncStopBit
A read-write field giving the asynchronous stop bits configuration. The possible values are *one*, *oneAndHalf*, and *two*.

AsyncParity
A read-write field giving the asynchronous parity configuration. The possible values are *none*, *even*, and *odd*.

AsyncSubMode
A read-write field giving the asynchronous parity error substitute mode condition. The possible values are *enable* and *disable*.

AsyncSubChar
A read-write field giving the asynchronous parity error substitute character. The possible values range from *0* to *255*.

PktFlowControl
A read-write field giving the flow control mechanism (for async only). The possible values are *ctsDtr* and *xonXoff*.

PktTxFlow
A read-write field giving the transmit flow. The possible values are *enable* and *disable*.

PktRxFlow
A read-write field giving the receive flow. The possible values are *enable* and *disable*.

PktBuildTimeOut
The build packet time out, given in units of 10 milliseconds (for async only).

PktRsThreshold
The receive threshold, ranging from *0* to *100*. If the receive buffer capacity is beyond this threshold, the flow control signal will send toward the network.

PktTxThreshold
The transmit threshold, ranging from *0* to *100*. If the transmit buffer capacity is beyond this threshold, the flow control signal will send toward the network.

PktMinRxFrag
The minimum receive fragment threshold, having a value of *1* to *200*. This read-write field specifies the minimum number of packet fragments received from the network before sending toward the DTE.

BiSyncCharType
A read-write field giving the bisync character type. The possible values are *ascii7*, *ascii8*, and *ebcdic*.

BiSyncPatity
A read-write field giving the bisync parity. The possible values are *high*, *low*, *even*, *odd*, and *notApplicable*.

BiSyncIdleFill
A read-write field giving the bisync idle fill. The possible values are *idle* and *sync*.

BiSyncMinPair
A read-write field giving the minimum number of sync character pairs that precede a packet. The possible values are *1* to *16*.

BiSyncSyncChar
A read-write field giving the bisync sync character. The default is *32h* for EBCDIC and *16h* for ASCII 7 and 8.

BiSyncPadChar
A read-write field giving the bisync pad character. The default is *0xff* for EBCDIC and ASCII 8 and *0x7f* for ASCII 7.

HdlcCrcType
A read-write field giving the CRC type. The possible values are *crc16* and *crc32*.

HdlcLineCode
A read-write field giving the line code. The possible values are *nrz* and *nrzi*.

HdlcIdleFill
A read-write field giving the idle fill. The possible values are *idle* and *flag*.

HdlcMinFlags
A read-write field giving the minimum number of flags between frames. The possible values range from *1* to *16*.

ModemSigInfo
A read-write field giving the modem signal bit map, which is as follows: bit 1 (lsb) is RTS, bit 2 is DTR, bit 3 is CTS, bit 4 is DCD, and bit 5 is DSR.

VcMapDlci
An integer value ranging from *0* to *1023*.

VcMapCir
The committed information rate in units of 100 bps.

TDMDataRate
A read-only field giving the TDM data rate. The value of this field must match the value of the AD 10 data port TDM data rate. If it does not match, the reset AD 10 data port command can be used to synchronize them. The possible values are listed below.

b1200	b2400	b4800	b7200
b9600	b12000	b14400	b16000
b16800	b19200	b24000	b28800
b32000	b38400	b48000	b56000
disabled			

Type
A read-only field having a possible value of *tdm-sync*, *stat-mux-async*, *bisync*, or *hdlc*. The value of this field must match the value of the AD 10 data port type. If it does not match, the reset AD 10 data port command can be used to synchronize them.

DtrFlLpDlyDelta
The DTR falling edge (going from high to low) delay is this field plus the value of **DtrLoopDelay**.

RtsFlLpDlyDelta
The RTS falling edge (going from high to low) delay is this field plus the value of **RtsLoopDelay**.

Voice Port Status

This button provides the following fields.

Addr
The AD 10 port address.

Mode
A read-write value that sets the mode. The possible values are *offline*, *online*, *disableDiagnosis*, *subDMW*, *bertTowardNetwork*, *loopSub*, and *loopNet*.

Interface
A read-write value that sets the interface. The possible values are *fxo*, *fxsGndStartContRing*, *fxsGndStartInterRing*, *fxsLoopStartContRing*, *fxsLoopStartInterRing*, *emTypeI*, *emTypeII*, *emTypeIII*, *emTypeIV*, *emTypeV*, *ac15*, and *ss5*.

EchoCancel
A read-write field used to enable or disable echo. The possible values are *enable* and *disable*.

ToneMode
A read-write field used to enable or disable tone mode. The possible values are *enable* and *disable*.

NonLinear
A read-write field used to enable or disable nonlinear. The possible values are *enable* and *disable*.

EMPolarity
A read-write field used to set EM polarity. The possible values are *reverse*, *normal*, and *notApplicable*.

UnCfgCktSig
A read-write field that can be set to *idle* or *busy*.

HookStateRx
The phone on/off hook status, which is a read-write field that can be set to *on* or *off*.

HookStateTx
The phone on/off hook status, which is a read-write field that can be set to *on* or *off*.

TxLevel
A read-write field that can be set from *-25.4db* to *+25.4db* in 0.2db increments.

RcvLevel
A read-write field that can be set from *-25.4db* to *+25.4db* in 0.2db increments.

Termination
A read-write field that can be set to *r600ohms* or *r900ohmsOrComplex*.

Wire
A read-write field that can be set to *w4wire*, *w2wire*, or *notApplicable*.

Ac15Dial
A read-write field that can be set to *dtmf*, *pulse*, or *notApplicable*.

TelcoIntType
A read-write field that can be set to *us*, *babt*, or *auste*.

Speed
A read-write field giving the compressed channel data rate for this AD 10 voice port. The possible values are listed below, with the default being *disabled*.

b5333	b7200	b7466	b8000
b8533	b9066	b9600	b10133
b10666	b11200	b11733	b12266
b12800	b13333	b13866	b14400
b14933	b15466	b16000	b16533
b17066	b17600	b18133	b18666
b19200	b19733	b20266	b20800
b21333	b21866	b22400	b22933
b23466	b24000	b24533	b25066
b25600	b26133	b26666	b27200
b27733	b28266	b28800	b29333
b29866	b30400	b30933	b31466
b32000	disabled		

This field must match the value for the AD 10 voice port speed. If it does not match, the reset AD 10 voice port command can be used to synchronize them. For ports using a CELP compression algorithm, only speeds of 5.333 Kbps, 7.2 Kbps, 8 Kbps, and 9.6 Kbps are supported. For ports using the ATC compression algorithm, only the speeds between 7.466 Kbps and 32 Kbps are supported.

CompressMode
A read-only field having a value of *tCelp* or *atc*. This field must match the value of the AD 10 voice port compress mode. If it does not match, the reset AD 10 voice port command can be used to synchronize them.

FaxMode
A read-only field having the value of *faxIIIenable-NSFenable*, *faxIIIenable-NSFdisable*, or *faxIIIdisable-NSFdontcare*. This field must match the value the AD 10 voice port fax mode. If it does not match, the reset AD

10 voice port command can be used to synchronize them.

OOSAudio
A read-write field that gives the OOS audio signal condition for AD 10 voice ports. The possible values are *fastBusy* and *silence*.

CelpNetSigMd
A read-write field that can have the value *auto*, *st*, or *link*. This field enables autodetection of CELP/ATC channel connected equipment to automatically change format to become compatible with either LINK (5 byte) or ST (8 byte) channel mode. Alternately, this field hard sets CELP/ATC channels to be compatible only with either LINK or ST mode compatible equipment.

CelpNetSigSt
A read-only field having the value *indeterminate*, *st*, or *link*. When **TrkGrpCelpNetSigMd** is set to *auto* (autodetection mode), this field indicates whether the CELP/ATC channel connected is running in either LINK (5 byte) or ST (8 byte) mode. If the channel is not connected, if it is running some other type of voice mode, or if the channel is not currently maintaining validated channel signaling synchronization, this field will indicate *indeterminate*. If autodetection is disabled, this parameter reflects the value of **TrkGrpCelpNetSigMd**.

AD 10 Statistics

This view contains three areas; Voice Port Statistics, Packet Band Statistics, and Data Port Statistics.

Voice Port Statistics

This view provides the voice port addresses and the following read-only counters for each address: PortHber, SyncLoss, BertByte, and BertBitErr.

Packet Band Statistics

This view provides the voice port addresses and the following read-only counters for each address: TxTotFrame, RxTotFrame, RxSCCOvrRun, TxSCCUndRun, RxSCCAbort, RxInvDlci, RxFrOvrSiz, and RxCrcErr.

Data Port Statistics.

This view provides the voice port addresses and the following read-only counters for each address: TxTotFrame, RxTotFrame, RxFrSeqErr, RxFrHdrErr, RxCongDisc, TxCongDisc,

RxBecnCoun, TxBecnCoun, TxSCCOvrRun, RxSCCUndRun, TxSCCAbort, TxFxOvrSiz, TxFifoFICt, RxMinSegHt, BertSynLoss, BertByteCnt, and BertBitErr.

ST1kRtmApp

This application provides RTM port configuration, status, and statistics information.

The Icon Subviews menu for this application provides access to the device specific views listed below.

- RTM Port Administration on Page 87
- RTM Specific Status on Page 88
- RTM Port Application Status on Page 89
- RTM Port Statistics on Page 90

RTM Port Administration

This view contains two tables; the Rtm Port Table and the AD-3 and AD-7 Port Configuration Table. Both tables are described below.

Rtm Port Table

This table provides the following fields.

Addr
The RTM port address.

StartMode
A read-write field having a value of *automatic*, *erase*, or *off* (the default value). *Erase* resets all parameters to their default values.

Update
A read-only field having the value *loaded* or *resetReq* (the default value).

Type
A read-write field having the value *ad3*, *ad7*, or *null* (the default value). Setting the field to *ad3* or

ad7 will allocate all of the access device ports with their default parameters.

PartitionID
A read-write field giving the partition identifier. The default value is the partition ID of the node.

AD-3 and AD-7 Port Configuration Table

This table provides the following fields.

Addr
A read-only field giving the RTM port address.

StartMode
A read-write field having a value of *automatic*, *erase*, or *off* (the default value). *Erase* resets all parameters to their default values.

Update
A read-only field having the value *loaded* or *resetReq* (the default value).

Speed
A read-write field giving the port speed. The possible values are *s150*, *s300*, *s1200*, *s2400*, *s4800*, *s8000*, *s9600*, *s14400*, *s19200*, *s32000*, *s38400*, *s48000*, *s56000*, *s64000* (the default value), and *s128000*. If the speed is set to *s56000* and **AdPortDataBits** is set to *b7*, the channel will be transported as a 64000 bit stuffed channel. If the speed is set to *s56000* and **AdPortDataBits** is set to *b8*, the channel will be a subrate channel.

AdPortDataBits
A read-write field having a value of *b7* or *b8* (the default value). *b7* cannot be used in subrate connections.

PortCommMode
A read-write field having the value *async* or *sync* (the default value).

PortType
A read-write field having the value *io* or *null* (the default value).

RTM Specific Status

This view provides the following read-only fields.

Addr
The RTM port address.

DSOsUsed
The current number of DS0 connections from AD-x units on this module.

DSOAvail
With the current number of DS0 and SAF connections, this field specifies the number of

DS0 connections that could still be made assuming no more SAF connections are made.

SafsUsed
The current number of SAF connections from AD-x units on this module.

SafsAvail
With the current number of DS0 and SAF connections, this field specifies the number of SAF connections that could still be made assuming no more DS0 connections are made.

RTM Port Application Status

This view provides the following fields.

Addr
The RTM port address.

FmtRevision
A read-only field giving the format revision of the AD-x.

Type
A read-only field giving the type of the Ad-x unit, either *ad3* or *ad7*.

SubType
A read-only field that can have a value of *integralInt*, *daughterBrdInt*, or *sipexChipInt*. In the case of *integralInt*, all interfaces are V24 (AD-3I/AD-7I subtype). In the case of *daughterBrdInt*, the interface type is determined by reading the restRtmAdPortElIntStatus MIB attribute (AD-3N/AD-7N subtype). In the case of *sipexChipInt*, you may program the interface type; however, this may not be supported in your release of the product.

AssemblyNum
A read-only value giving the AD-x unit assembly number.

MotherBrdAssmNmb
A read-only value giving the mother board assembly number.

Serial Nmb
A read-only value giving the Ad-x unit serial number.

ManufactDate
A read-only value giving the Ad-x unit manufacture date.

RamSize
A read-only value giving the Ad-x unit RAM size.

ModDiagResult
A read-only value giving the AD-x unit internal diagnostics result. The bit mask is: bit 0 (LSB) equals RAM test; bit 1 equals U-interface D-

channel loopback test; bit 2 equals SCC-chip D-channel loopback test; bit 3 equals U-interface loopback test; bit 4 equals CPI loopback test; bit 5 equals PROM ID checksum; bit 6 equals port status checksum; and bits 7 through 15 (MSB) are reserved. The bit value 1 means test failure.

PortDiagResult
A read-only value giving the AD-x port internal diagnostics result. The bit mask is read from right (LSB) to left (MSB) and represents corresponding element numbers. A bit set to 1 means the diagnostics failed; 0 means it passed.

CpMode
A read-write field setting the CPI console passthrough mode. The possible values are *enable* and *disable* (the default value).

CpSpeed
A read-write field setting the CPI console speed value. The possible values are *a19200* and *a9600* (the default value).

RTM Port Statistics

This view provides the following fields.

Addr
The RTM port address.

UIFarEndBlkErr
The count of the RTM port U-interface far end block errors. It is a count that is being kept by the RTM module.

UINearEndBlkErr
The count of the RTM port U-interface near end block errors. It is a count that is being kept by the RTM module.

AdUIFarEndBlkErr
The count of the RTM port U-interface far end block errors. It is a count that is being kept by the RTM AD module.

AdUINrEndBlkErr
The count of the RTM port U-interface near end block errors. It is a count that is being kept by the RTM AD module.

OOSTransitions
The count of the RTM port OOS transition occurrences. It is a summary of the events for all the elements on the port.

ST1kChnlApp

This application provides channel and trunk status and statistics information.

The Icon Subviews menu for this application provides access to the device specific views listed in below.

- Network/Nodal Voice Profile Administration on Page 91 accesses network and nodal voice administration and configuration information.
- TDM Channel Configuration on Page 95 accesses TDM channel address, type, and profile information.
- General Channel Status on Page 97 accesses channel address and operational status information.
- Trunk Group Application Status on Page 98 lets you sort, find, and update the trunk address and status.
- Trunk Group Contents Status on Page 98 accesses trunk group address and identification information.
- Packet Channel Source-Destination Statistics Administration on Page 99 accesses Commit Information Rate (CIR), Excessive Information Rate (EIR), and segment statistics.
- Packet Channel Bypass Statistics Administration on Page 103 accesses packet channel CIR/EIR and segment statistics.

Network/Nodal Voice Profile Administration

This view contains two tables; a Networkwide Voice Profile Table and a Nodal Voice Profile Table. Voice profile entries in the Networkwide Voice Profile table serve as a network wide profile for multiple voice connections across the network. Even though it is not enforced by the node, it is suggested that such enforcement be provided by network management.

When a new voice profile is created in one table, it is created with the proper default values in the other.

Entry number one in the Networkwide Voice Profile table always exists on the node. It is initialized with all default values except for the

field **Control Mode**, the value of which is *enable*. Entry one cannot be disabled or erased.

Changes for all entries take effect immediately on new connections; however, they do not affect channels that are already connected.

Networkwide Voice Profile Table

This table within the Networkwide/Nodal Voice Profile Administration view contains the following fields. Except for **Index**, all fields provide read-write values.

Index
Index of the voice profile entry.

CntrlMode
The possible values are *enable*, *disable*, and *erase*. The default value is *disable*, which prevents this voice profile from being applied to any new voice connections. *Erase* removes this voice profile from the table.

CompressMode
Defines which compression algorithm to use for voice channels connected using this voice profile. The possible values are *tCelp*, *atc*, *adpcm*, *ecelp-fr*, and *pcm* (the default value).

Speed
The compressed channel data rate for any voice subrate connections using this voice profile, in the format b<bps>. For example, the value 5.333 Kbps would be entered as *b5333*. For channels using a CELP compression algorithm, only rates of 5.333, 7.2, 8, and 9.6 Kbps are supported. For channels using the ATC compression algorithm, only rates between 7.466 and 32 Kbps (in increments of 533 bps) are supported. For channels using the ADPCM compression algorithm, only rates of 31.733 and 32.000 Kbps are supported. For channels using the ECELP frame relay compression algorithm, only rates of 4.8, 7.466, and 9.6 kbps are supported. For channels using PCM (uncompressed mode), only the rate of 64 Kbps is supported. The default value is *b64000*

DTMF Rly
Controls the DTMF relay on voice connections that use this voice profile. The possible values are *disable* and *enable* (the default value). When enabled, DTMF signals are transferred through the connection. This field is ignored for PCM and ADPCM voice channels.

Fax Rly
Controls the fax relay on voice connections that use this voice profile. The possible values are *disable* and *enable* (the default value). When

enabled, fax operation is supported over the connection.

FaxNSFMode
Controls the nonstandard fax mode on voice connections that use this voice profile. The possible values are *enable* and *disable* (the default value). For PCM and ADPCM voice channels, this field is ignored.

VocoderEnab
The possible values are *disable* and *normal* (the default value). This field controls the vocoder mode on any voice connections that use this voice profile. This field is ignored for PCM and ADPCM voice channels.

NetDataMode
Controls the 2100 Hz detection logic and data mode operation with the ATC vocoder on voice connections that use this voice profile. The possible values are *enable* and *disable* (the default value). This field is only used for ATC voice channels. This field is ignored for all other types of voice channels.

Sig Type
The type of signaling used by the T1M/E1M bundles that connect to voice ports using this voice profile. The possible values are *a*, *ab*, *abcd*, *ac15-dtmf*, *ac15-dp*, and *none* (the default value).

SigIdlePttrn
Defines the idle signaling pattern on any ASM voice ports that use this voice profile. This pattern is delivered to receive signal channel connections at times prior to the availability of a verified reliable signal channel source. The possible values are given below. The default value is *a0-b0-c0-d0*.

a0-b0-c0-d0	a0-b0-c0-d1
a0-b0-c1-d0	a0-b0-c1-d1
a0-b1-c0-d0	a0-b1-c0-d1
a0-b1-c1-d0	a0-b1-c1-d1
a1-b0-c0-d0	a1-b0-c0-d1
a1-b0-c1-d0	a1-b0-c1-d1
a1-b1-c0-d0	a1-b1-c0-d1
a1-b1-c1-d0	a1-b1-c1-d1

Nodal Voice Profile Table

This table within the Networkwide/Nodal Voice Profile Administration view provides voice profile entries that serve as a nodal part of the profile for voice connections. It is intended for individual fine adjustment of the voice parameters on each end of the connection. A given value refers to the

same voice profile in both this table and the Networkwide Voice Profile Table. When a new voice profile is created in one table, it is also created with the proper default values in the other. Changes for all entries take effect immediately on new connections; however, they do not affect channels that are already connected.

This table contains the following fields.

Index
A read-only field that provides an integer value.

RdnGrpId
The redundancy group value (*1* to *64*) of the server module that the voice port will be allocated on. The default value is *1*.

TxAudSrcMode
Controls the transmit audio source on any voice connections that use this voice profile. This field is ignored for PCM voice channels. The possible values are *silence*, *tone DMW*, and *normal* (the default value).

RxAudOutMode
Controls the receive audio source on any voice connections that use this voice profile. This field is ignored for PCM voice channels. The possible values are *silence*, *tone DMW*, and *normal* (the default value).

EchoCancel
Controls the echo cancellation on any voice connections that use this voice profile. This field is ignored for PCM voice channels. The possible values are *disable* and *enable* (the default value).

NonLinear
Controls the non-linear processing inside the echo canceller on any voice connections that use this voice profile. The non-linear processor removes residual echo from the displayed signal. This field is ignored for PCM voice channels. The possible values are *enable* and *disable* (the default value).

TxPCMGain
Controls the transmit PCM gain on any voice connections that use this voice profile. This field is ignored for PCM voice channels. The range is defined from -33.0 dB to +18.0 dB with 0.2 dB increments. The default value is 0 dB.

RxPCMGain
Controls the receive PCM gain on any voice connections that use this voice profile. This field is ignored for PCM voice channels. The range is defined from -33.0 dB to +18.0 dB with 0.2 dB increments. The default value is 0 dB.

PCMPhSize
The size of the phasor (in bytes) on the PCM (64K) side of any voice connections using this voice profile. This field is ignored for PCM and ECELP-FR voice channels. The default value is *16*.

SubratePhSize
The size of the phasor (in bytes) on the subrate side of any voice connections using this voice profile. This field is ignored for PCM and ECELP-FR voice channels. The default value is *16*.

NetSigMode
Enables autodetection of CELP/ATC channel connected equipment so as to automatically change format to become compatible with either LINK (5 byte) or ST (8 byte) channel modes. Alternately, this field hard sets CELP/ATC channels to be compatible only with either LINK or ST mode compatible equipment. This field is ignored for PCM, ADPCM, and ECELP-FR. The possible values are *auto*, *link*, and *st* (the default value).

TDM Channel Configuration

Unless stated otherwise, all fields in this view are read-write. Double-click an entry to access the Detail view and make any changes.

ChannelAddr
A read-only field giving the channel address.

DestNodeID
The destination node address.

DestAddr
The destination channel address.

ControlMode
Indicates whether the channel can be used in a connection request. The possible values are *enable*, *erase*, and *disable* (the default value). *erase* is used to wipe out the channel configuration MIB. Setting this to *erase* will not succeed if the channel is not disconnected.

Update
A read-only value that can be either *loaded* or *resetReq* (the default value).

ModuleType
A read-only value that gives the type of module on which this channel endpoint is located. This is derived from the port or bundle on which the channel is configured. The possible values are *t1m*, *e1m*, *sgm*, *lgm*, *asm*, *fsm*, *sdm*, *sgmAg*, *rtm*, *brm*, *dsm*, and *e3m*.

DeviceType
A read-only value that gives the type of device connected to this channel endpoint. This is

derived from the port or bundle on which the channel is configured, which is always *0* for server ports. The values *1-10* are reserved by ST-50, of which *1* is for voice, *2* is for switch 56, and *3* is for clear channel. The values *11* and up can be used to define user-specific device types. For TDM channels connected between I/O ports, the channel will not connect if the device types do not match. For I/O to server port connections, the device types will not be compared.

Profile
A value ranging from *1* to *225*, with *1* being the default value.

Orig
For EMS usage, the value is *yes* or *no* (the default value).

PartitionID
A read-only value used by the security server to enforce shared node.

DestChkMode
Indicates if the remote node ID and remote address in the destination's channel MIB need to verify the source's node ID and address before allowing a channel connection. The possible values are *enable* or *disable* (the default value).

ConnectMode
Indicates whether a channel should be automatically connected when a port comes up or if the user is responsible for connecting the channel. The possible values are *autoConnect* or *userInitiate* (the default value).

State
If this value is *connected*, the Channel Status is also set to *connected*. If the value is *processing*, the Channel Status is set to any value besides *connected* and *disconnected*. For all other values, the Channel Status is set to *disconnected* and this field specifies the reason for the disconnection. The default value is *notApplicable*.

SplPrfType
Specifies the type of special profile that is used on this channel connection. The possible values are *voiceProfile*, *dataProfile*, and *none* (the default value).

DestNodeType
Defines the type of the destination node for this channel. If set to *link*, the LGM translation table entry indexed by the value of **ChannelDestAddr** will be allocated. If this field has an illegal translation table index value, the command should fail. The possible values are *link* and *st* (the default value).

SplProfile
Specifies the special profile index used on this channel connection. The default value is *1*.

General Channel Status

This view provides the following fields.

StatusAddr
A read-only value that specifies one of two channel address types. One is the local channel address, where the channel originates and/or terminates on this node. This address specifies a channel endpoint that exists on this node using the format of the channel address, with the remainder of the instance identifier set to zeros. Another address type is the bypass channel address, which can be used to obtain the status of a channel at a node that does not originate and/or terminate the channel. This format specifies the node ID and channel address of either the source or destination of the channel.

SourceNodeID
A read-only node address.

SourceAddr
A read-only channel address.

DestNodeID
A read-only node address.

DestAddr
A read-only channel address.

Status
A read-only channel status indicator. If the value is *disconnected*, see the TDM Channel Disconnect (for TDM and subrate channels) or Fr Channel Disconnect (for packet channels) for the disconnect reason. If the value is *pending*, it is waiting for the end-to-end acknowledgment. All of the retry values indicate that the node is trying to connect the channel. Each individual value indicates why the channel connection has not succeeded yet.

SubStatus
A read-only value. The *waitForRTSAck* value is only valid when the channel status is *connecting*. The *none* value is valid for any channel status. The other values are only valid when the channel status is *retryNoServer*.

Type
A read-only value indicating *tdm*, *packet*, *subrate*, *trunkGroup*, or *voice*.

Bandwidth
A read-only value of the bandwidth this channel occupies on the bus of an INL.

BypassCount
A read-only value of the count.

Path
A read-only value. For TDM and subrate channels, each hop of the path is indicated using three bytes. The first two bytes are the node number. The most significant bit of the first byte of the node number will be set to one if the channel is connected at a subrate speed and the node contains an SGM. The third byte identifies the INL that the channel passes through. For packet channels, each hop of the path is indicated using five bytes. The first two bytes are the node number. The third and fourth bytes are the nest and slot numbers, respectively, of the FSM that this packet channel passes through. The fifth number identifies the INL that the channel passes through.

RouteQuality
A read-only value that is either *asSpecified* or *overRiden*.

ConnectTime
A read-only value indicating the time since this channel was connected. The value indicates the time as the number of seconds since midnight on January 1, 1970.

Trunk Group Application Status

This view lets you sort, find, and update the status indications for the trunk group addresses.

Trunk Group Contents Status

This view provides the following fields, which are all read-only.

Addr
The address of the trunk group.

SequenceID
Used to index multiple ports assigned to this trunk group.

SrcNodeID
The value of the source node ID of the current channel.

SrcTrkGrpAddr
The value of the source trunk group address of the current channel.

SrcChAddr
The value of the source end point address of the current channel (T1M/E1M port) using this trunk group.

DstNodeIID
The destination node ID of the current channel.

DstTrkGrpAddr
The destination trunk group address of the current channel.

DstChAddr
The destination end point address of the current channel (T1M/E1M port) using this trunk group.

Packet Channel Source-Destination Statistics Administration

This view is divided into areas that provide access to packet channel statistics, CIR/EIR statistics, and Segment statistics. These are described below.

Packet Channel Statistics

This table within the Packet Channel Source-Destination Statistics Administration view provides the following fields.

Ch Pkt Addr
The read-only value of the channel address.

Src Node Id
The source node ID of the current channel.

Src Ch Addr
The value of the source end point address of the current channel (T1M/E1M port) using this trunk group.

Dest Node Id
The destination node ID of the current channel.

FECN Sent
A read-only counter.

BECN Sent
A read-only counter.

CIR/EIR Statistics

This area of the Packet Channel Source-Destination Statistics Administration view contains buttons that access CIR statistics and EIR statistics, as described below.

CIR Statistics

This button accesses the Packet Channel CIR Statistics view, which is divided into two areas described below, Packet Port CIR Statistics and Packet Net CIR Statistics.

Packet Port CIR Statistics

This area of the Packet Channel CIR Statistics view provides the following fields.

Ch Pkt Addr
The read-only value of the channel address.

Credit
Number of CIR octets that can be sent per second.

PortSegSent
Number of CIR segments sent from the network to the user device.

PortSegRcvd
Number of CIR segments received from the user device to be sent to the network.

PortOctetSent
Number of CIR octets sent from the network to the user device.

PortOctetRcvd
Number of CIR octets received from the user device to be sent to the network.

PortSegDrop
Number of CIR segments received from the user device that have been dropped.

PortOctetDrop
Number of CIR octets received from the user device that have been dropped.

Packet Net CIR Statistics

This area of the Packet Channel CIR Statistics view provides the following fields.

Ch Pkt Addr
The read-only value of the channel address.

NetSegSent
Number of CIR segments sent from the user device to the network.

NetSegRcvd
Number of CIR segments received from the network to be sent to the user device.

NetOctetSent
Number of CIR octets sent from the user device to the network.

NetOctetRcvd
Number of CIR octets received from the network to be sent to the user device.

NetSegDrop
Number of CIR segments received from the network that have been dropped.

NetOctetDrop
Number of CIR octets received from the network that have been dropped.

EIR Statistics

This button accesses the Packet Channel EIR Statistics view, which is divided into two areas described below, Packet Port EIR Statistics and Packet Net EIR Statistics.

Packet Port EIR Statistics

The following fields are provided.

Ch Pkt Addr
The read-only value of the port address.

Credit
Number of EIR octets that can be sent per second.

PortSegSent
Number of EIR segments sent from the network to the user device.

PortSegRcvd
Number of EIR segments received from the user device to be sent to the network.

PortOctetSent
Number of EIR octets sent from the network to the user device.

PortOctetRcvd
Number of EIR octets received from the user device to be sent to the network

PortSegDrop
Number of EIR segments received from the user device that have been dropped.

PortOctetDrop
Number of EIR octets received from the user device that have been dropped.

Packet Net EIR Statistics

The following fields are provided.

Ch Pkt Addr
The read-only value of the channel address.

NetSegSent
Number of EIR segments sent from the user device to the network.

NetSegRcvd
Number of EIR segments received from the network to be sent to the user device.

NetOctetSent
Number of EIR octets sent from the user device to the network.

NetOctetRcvd
Number of EIR octets received from the network to be sent to the user device.

NetSegDrop
Number of EIR segments received from the network that have been dropped.

NetOctetDrop
Number of EIR octets received from the network that have been dropped.

Segments Statistics

This area of the Packet Channel Source-Destination Statistics Administration view contains two buttons that access the information described below

Statistics of Segments in Various Queues

This button accesses a view that provides the following fields.

Ch Pkt Addr
The read-only value of the channel address.

SegToUser
The number of segments currently queued to be sent to the user device.

SegToNet
The number of segments currently queued to be sent into the network bound for the other end of the frame relay channel.

YellowThresh
The number of segments that can be in any queue before that channel is in yellow congestion mode. This value is 40% of the critical threshold.

RedThresh
The number of segments that can be in any queue before that channel is in red congestion mode. This value is 86% of the critical threshold.

CritThresh
The number of segments that can be in any queue before that channel is in critical congestion mode. This value is the maximum number of segments that the queue can contain.

PortConMode
The congestion mode of the port queue, which forwards segments to the user device. The possible values are *normal*, *yellow*, *red*, and *critical*.

NetCongMode
The congestion mode of the network queue, which forwards segments to the network that are destined for the other endpoint of the frame relay channel. The possible values are *normal*, *yellow*, *red*, and *critical*.

RemoteCongMode
The worst congestion mode of all of the segment queues between this node and the other endpoint

of the frame relay channel. The possible values are *normal*, *yellow*, *red*, and *critical*.

Statistics of Segments Discarded

This button access a view that provides the following fields.

Ch Pkt Addr
The read-only value of the channel address.

EIR Disc
The number of segments discarded because the system was unable to send EIR traffic.

Seq Disc
The number of segments discarded because a sequence error was detected.

CongPortDisc
The number of segments discarded because of congestion on the queue with segments to send to the user device.

CongNetDisc
The number of segments discarded because of congestion on the queue with segments to send to the network.

Exc Disc
The number of segments discarded because the available CIR or EIR credit has been exceeded.

UnderSz
The number of segments discarded because the size was less than the minimum.

V120Err Disc
The number of segments discarded because the V120 header was bad (used with AD 10 only).

InacPortDisc
The number of segments discarded because the destination DLCI was inactive.

InacNetDisc
The number of segments discarded because this DLCI was inactive.

Packet Channel Bypass Statistics Administration

This view contains three areas that are described below; Packet Channel Bypass Statistics, CIR/EIR Statistics, and Segment Statistics.

Packet Channel Bypass Statistics

This area of the Packet Channel Bypass Statistics Administration view provides the following fields.

Byp Node ID
A read-only value indicating the bypass node address.

Ch Pkt Addr
A read-only value indicating the channel address.

Src Node Id
A read-only value indicating the Src node address.

Src Channel Addr
A read-only value indicating the Src channel address.

Dest Node Id
A read-only value indicating the destination node address.

Dest Ch Addr
A read-only value indicating the destination channel address.

CIR/EIR Statistics

This area of the Packet Channel Bypass Statistics Administration view provides two buttons (CIR Statistics and EIR Statistics) that access the information described below.

CIR Statistics

This button accesses a view that contains two areas, Packet In CIR Statistics and Packet Out CIR Statistics.

Packet In CIR Statistics

This area of the Packet Channel Bypass CIR Statistics view provides the following fields.

Byp Node Id
A read-only value indicating the bypass node address.

Ch Pkt Addr
A read-only value indicating the channel address.

In Seg Sent
Number of CIR segments sent from this node to the source of this channel.

In Seg Rcvd
Number of CIR segments received at this node from the source of this channel.

In Octet Sent
Number of CIR octets sent from this node to the source of this channel.

In Octet Rcvd
Number of CIR octets sent from this node to the source of this channel.

In Seg Drop
Number of CIR segments received at this node from the source of this channel that have been dropped.

In Octet Drop
Number of CIR octets received at this node from the source of this channel that have been dropped.

Packet Out CIR Statistics

This area of the Packet Channel Bypass CIR Statistics view provides the following fields.

Byp Node Id
A read-only value indicating the bypass node address.

Ch Pkt Addr
A read-only value indicating the channel address.

Out SegSent
Number of CIR segments sent from this node to the destination of this channel.

Out SegRcvd
Number of CIR segments received at this node from the destination of this channel.

Out OctetSent
Number of CIR octets sent from this node to the destination of this channel.

Out OctetRcvd
Number of CIR octets received at this node from the destination of this channel.

Out SegDrop
Number of CIR segments received at this node from the destination of this channel that have been dropped.

Out OctetDrop
Number of CIR octets received at this node from the destination of this channel that have been dropped.

EIR Statistics

This button accesses a view that contains two areas, Packet In EIR Statistics and Packet Out EIR Statistics.

Packet In EIR Statistics

This area of the Packet Channel Bypass CIR Statistics view provides the following fields.

Byp Node Id
A read-only value indicating the bypass node address.

Ch Pkt Addr
A read-only value indicating the channel address.

In Seg Sent
Number of EIR segments sent from this node to the source of this channel.

In Seg Rcvd
Number of EIR segments received at this node from the source of this channel.

In Octet Sent
Number of EIR octets sent from this node to the source of this channel.

In Octet Rcvd
Number of EIR octets sent from this node to the source of this channel.

In Seg Drop
Number of EIR segments received at this node from the source of this channel that have been dropped.

In Octet Drop
Number of EIR octets received at this node from the source of this channel that have been dropped.

Packet Out EIR Statistics

This area of the Packet Channel Bypass CIR Statistics view provides the following fields.

Byp Node Id
A read-only value indicating the bypass node address.

Ch Pkt Addr
A read-only value indicating the channel address.

Out SegSent
Number of EIR segments sent from this node to the destination of this channel.

Out SegRcvd
Number of EIR segments received at this node from the destination of this channel.

Out OctetSent
Number of EIR octets sent from this node to the destination of this channel.

Out OctetRcvd
Number of EIR octets received at this node from the destination of this channel.

Out SegDrop
Number of EIR segments received at this node from the destination of this channel that have been dropped.

Out OctetDrop
Number of EIR octets received at this node from the destination of this channel that have been dropped.

Segments Statistics

This area of the Packet Channel Bypass Statistics Administration view contains two buttons (Statistics of Segments in Various Queues and Statistics of Segments Discarded) that access the information described below.

Statistics of Segments in Various Queues

This button accesses a view that provides the following fields.

Byp Node ID
A read-only value indicating the bypass node address.

Ch Pkt Addr
A read-only value indicating the channel address.

Seg To Src
Number of segments currently queued to be sent to the source of this channel.

Seg To Dst
Number of segments currently queued to be sent to the destination of this channel.

YellowThresh
Number of segments that can be in any queue before that channel is in yellow congestion mode. This value is 40% of the critical threshold.

RedThresh
Number of segments that can be in any queue before that channel is in red congestion mode. This value is 86% of the critical threshold.

CritThresh
Number of segments that can be in any queue before that channel is in critical congestion mode. This value is the maximum number of segments that the queue can contain.

In Cong Mode
Congestion mode of the in queue, which forwards segments to the source of this channel. The possible values are *normal*, *yellow*, *red*, or *critical*.

Out Cong Mode
Congestion mode of the out queue, which forwards segments to the source of this channel. The possible values are *normal*, *yellow*, *red*, or *critical*.

Statistics of Segments Discarded

This button accesses a view that provides the following fields.

Byp Node ID
A read-only value indicating the bypass node address.

Ch Pkt Addr
A read-only value indicating the channel address.

SrcEIRDisc
Number of segments from the source of this channel that were discarded because the system was unable to send EIR traffic.

DstEIRDisc
Number of segments from the destination of this channel that were discarded because the system was unable to send EIR traffic.

SrcDstConDisc
Number of segments from the source of this channel that were discarded because the queue of segments to send to the destination was congested.

DstSrcConDisc
Number of segments from the destination of this channel that were discarded because the queue of segments to send to the source was congested.

InacSrcDisc
Number of segments discarded because the source of this channel was inactive.

InacDstDisc
Number of segments discarded because the destination of this channel was inactive.

ST1kINLApp

This application provides Inter Nodal Link (INL) configuration, status, and statistics information.

The Icon Subviews menu for this application provides access to the following device specific views:

- Inter Nodal Link Configuration on Page 109
- Inter Nodal Link Status on Page 111
- Inter Nodal Link Contents Status on Page 112
- Inter Nodal Link Statistics on Page 112

Inter Nodal Link Configuration

This view provides the following fields.

Number
A read-only value ranging from *1* to *31*.

Address
Setting this field will set the INL number field in the port or bundle configuration to this INL's number.

StartMode
Setting this field to *erase* will fail if the INL has not been removed. Otherwise, it will erase the INL configuration and set the INL number field in the port or bundle configuration to zero. The possible values are *automatic*, *erase*, and *off* (the default value).

Update
A read-only value of *loaded*, *updateReq*, or *resetReq* (the default value).

Arq Cir
A read-write value ranging from *0* to *2048000* bps. The default value is *9600*.

MaxPktDSO
A read-write value of *1* to *32* representing the maximum packet bandwidth in units of DS0. (INL bandwidth minus the value of **MaxPktDS0** is the guaranteed TDM bandwidth.)

PktCirOccu
A number representing the CIR occupancy percentage (P) of the packet band bandwidth. The value of P can be *1* through *100* (the default value). The INL bandwidth allocation uses the following three rules:

1. The sum of the bandwidth for all TDM channels is equal to or less than **MaxTDMDS0**
2. The sum of the CIR for all packet channels is equal to or less than **MaxPktDS0** multiplied by P.
3. The sum of the bandwidth for all TDM channels plus 1/P multiplied by the SUM of all packet channel CIR is equal to or less than the INL bandwidth.

MaxTDMDSO
A read-write value ranging from *1* to *31* representing the maximum TDM bandwidth in units of DS0. (INL bandwidth minus the value of **MaxTDMDS0** equals the guaranteed packet bandwidth.

Group
Up to seven groups for each INL. The bit map (bits *1* (lsb) to *7F)* indicates the group(s) of the INL. The default value is *7F*.

Cost
A read-write value ranging from *1* to *65535* assigned by you. The default value is *1*.

Encryption
A read-write value of either *normal* (the default value) or *encrypted*.

SateliteHop
A read-write value ranging from *0* to *3*, with *0* being the default value.

OOSTimer
A read-write value ranging from *1* to *60* (with *10* being the default) that indicates the number of seconds that the ST-1000 will wait after detecting an out-of-service condition on an INL before declaring the INL to be out of service and disconnecting all channels connected over the INL.

Orig
A read-write value of *yes* or *no* (the default value) for EMS usage.

RemNodeId
A read-write value for the node identification, with *0* meaning “don't care.” The default value is *0000h*.

RemINLId
A read-write value ranging from *0* to *31* and indicating the INL number of the remote side. *0* (the default value) means “don't care.”

Part.Id
A read-only value of the partition identification used by the security server to enforce shared node.

Inter Nodal Link Status

This view provides the following fields.

Number
A read-only value ranging from *1* to *31*.

Address
A read-only address value.

Status
A read-only status value including *pending*, *inService*, *outofService*, or *maintenance*.

SubStatus
A read-only value including *disable* or *enable* (the default value).

LocBERLev
A read-only value ranging from *0* to *16* and indicating the BER level on the local node. If the value of **locBERQual** is *notCalculatedYet*, this field displays *0*.

LocBERQual
A read-only value indicating the BER quality as *accepted*, *unaccepted*, or *notCalculatedYet*.

RemNodeId
A read-only number identifying the node that the INL terminates on. If no remote connection has been established, this field displays *0*.

RemPortAddr
A read-only number identifying the port or bundle address that the INL terminates on. If no remote connection has been established, this field displays *0*.

RemINLId
A read-only value ranging from *0* to *31 and* identifying the INL ID on the remote node that the INL terminates on. If no remote connection has been established, this field displays *0*.

RemBERLev
A read-only value ranging from *0* to *16* and indicating the BER level on the remote node that the INL terminates on. If the value of **LocBERQual** is *notCalculatedYet*, this displays *0*.

RemBERQual
A read-only field having a value of *accepted*, *unAccepted*, or *notCalculatedYet*.

AvailTDMBw
The available TDM bandwidth.

AvailPktBW
The available packet bandwidth.

LpbackDur
A read-write value ranging from *0* to *65535* (which specifies a permanent loopback) that specifies the loopback duration.

LpbackStatus
A read-only field having a value of *none*, *originator*, *terminator*, or *external*.

TotalCRCErr
A read-only numeric value.

BERWndFill
A read-only value for window fill.

NumTdmChnl
A read-only value showing the number of TDM channels.

NumFrChanl
A read-only value showing the number of Fr channels.

Speed
The INL speed.

NumSaf
A read-only counter of SAFs.

LosMode
A read-only field having a value of *localOutOfSync*, *localInSync*, or *notApplicable*.

BusFrmMode
A read-only field having a value of *addbackMode*, *fallbackMode*, or *notApplicable*.

Inter Nodal Link Contents Status

This view provides the following fields.

INL Number
A read-only value ranging from *1* to *32*, with INL 32 used to display local connections.

Seq Number
A read-only value ranging from *1* to *65535*.

Src Node ID
Read-only node address.

Src Node Addr
Read-only channel address.

Dest Node ID
Read-only node address.

Dest Node Addr
Read-only channel address.

Inter Nodal Link Statistics

This view provides the following fields.

INL Number
A read-only field having a value ranging from *1* to *31* and identifying the INL.

Index
A read-only field having a value ranging from *1* to *96* and identifying which 15 minute interval these statistics are for.

Pkt Octet Sent
The number of octets sent across the INL. A value of *0* means that no data is available for that interval.

Pkt Octet Rcvd
The number of octets received across the INL. A value of *0* means that no data is available for that interval.

ST1kFrmRlyApp

This application provides frame relay channel and port status information.

The Icon Subviews menu for this application provides access to the following views:

- Packet Channel Status/Ping View on Page 114
  - Packet Channel Status Table on Page 114
  - Packet Channel Ping Table on Page 115
- Frame Relay Channel Administration View on Page 116
- Frame Relay Port Administration View on Page 117
- Packet Port Statistics View on Page 119

Packet Channel Status/Ping View

This view provides a Packet Channel Status Table and a Packet Channel Ping Table, both of which are described below.

Packet Channel Status Table

This table provides the frame relay channel status in the following fields.

Address
The read-only value for the channel status.

TestGenStatus
A read-only value that specifies whether a test generator is currently active on this channel and, if so, whether it is local or remote. The possible values are *activeLocal*, *activeRemote*, and *inactive*.

TestGenFrSent
A read-only counter of the number of test generator frames sent.

TestGenFrRcvd
A read-only counter of the number of test generator frames received without any errors.

TestGenFrRcvErr
A read-only counter of the number of test generator frames received with at least one error.

TestGenFrTimeout
A read-only counter of the number of test generator frames sent that were not received.

PingStatus
A read-only value that specifies whether the channel is sending ping messages or not. The possible values are *active* and *inactive*.

Num_Rem
A read-only value ranging from *0* to *255* that is the number of times that the ping message still has to be sent when ping is active. If ping is inactive or if you requested the ping to continue until explicitly stopped, this field displays *0*.

Comm.Status
A read-only value that indicates the status of the communication via this packet channel. The field displays *notApplicable* for frame relay channels on FSM ports. The possible values are *active*, *transportLayerFailure*, *revisionIncompatibility*, *pvcDisconnect*, *pvcLoopback* and, for FSM ports, *notApplicable*.

Packet Channel Ping Table

This table provides the frame relay channel ping status in the following fields.

Address
The read-only value of the channel address.

Hop Numbers
A read-only number ranging from *1* to *17* that identifies the hop of the channel path to which this information applies. The first hop originates from the node that the ping was initiated on. This node is referred to as the originating node. The last hop ends on the node where the opposite end of the channel is located. This node is referred to as the terminating node. The field **Channel Path** can be used to identify where each hop is in the network.

Delay
A read-only value that indicates the round trip delay between this node and the terminating node, in units of 10 millseconds.

Orig Term Cong
A read-only value of *normal*, *yellow*, *red*, or *critical*.

Term Orig Cong
A read-only value of *normal*, *yellow*, *red*, or *critical*.

Frame Relay Channel Administration View

This view provides the following fields.

Index
The channel address.

DestNodeID
The destination node address.

DestAddr
The destination channel address.

Cntrl Mode
A read-write value that indicates whether the channel can be used in a connection request or not. The possible values are *enable*, *disable* (the default value) and *erase*. The value *erase* is used to wipe out the channel configuration MIB. Setting this to *erase* will not succeed if the channel is not disconnected.

Update
A read-only value of either *loaded* or *resetReq* (the default value).

Type
A read-write value of either *regular* (the default value) or *expressRouting*. *regular* is for a point-to-point connection. *expressRouting* is for a Time Lan Router. It is only valid for DLCIs.

CirTransPri
A read-write priority value ranging from *0* to *7* (the highest priority). Use a high priority when timing critical traffic. The default value is *4*.

CIR
The commit information rate (in bps) is a read-write value ranging from *0* to *2048000*. The default value is *0*.

EIR
The excessive information rate (in bps) is a read-write value ranging from *0* to *2048000*. The default value is *0*.

Burst Rate
A read-write value from *0* to *2147483647* that provides the commit burst rate. The default value is *0*.

Profile
A read-write value from *1* to *255*. The default value is *1*.

Orig
A read-write value specifying EMS internal usage. The possible values are *yes* and *no* (the default value).

Part.ID
A read-write value from *1* to *1023* used for security on shared nodes. For channels defined

on FSM port, this field can only be set to the port partition ID. The following applies for channels defined on DSM PVC port: on dedicated/root nodes, it may be set only to the node owner partition ID; on shared nodes, it may be set to any partition ID in the node access list.

State
A read-only value. If the value is *connected*, then **Channel Status** is also set to *connected*. If the value is *processing*, then **Channel Status** is set to any value besides *connected* and *disconnected*. For all other values, **Channel Status** is set to *disconnected* and this field specifies the reason for the disconnection. The default value is *notApplicable*.

DestChkMode
A read-write value that indicates if the remote node ID and remote address in the destination's channel MIB need to verify the source's node ID and address before allowing a channel connection. The possible values are *enable* and *disable* (the default value).

ConnectMode
A read-write value that indicates whether a channel should be automatically connected when a port comes up or if the user is responsible for connecting the channel. The possible values are *autoConnect* and *userInitiate* (the default value).

ModType
A read-only value giving the type of module on which this channel endpoint is located, which is derived from the port or the channel on which it is configured. The possible values are *fsm* and *dsm*.

Frame Relay Port Administration View

This view provides the following fields.

Port Address
The read-only port address.

Description
A read-write value from *0* to *15* used by EMS ITM and other applications.

Start Mode
A read-write value that can be set to *automatic*, *erase*, or *off* (the default value). *erase* will erase the port configuration MIB as well as any TDM and frame relay channels defined on this port. The erase will not succeed if any of the channels on the port are not disconnected.

Update
A read-only value indicating the state of the port. The possible values are *loaded* and *resetReq* (the default value).

LmiActive
A read-write Lmi status value of either *disabled*, *ccittQ933A*, or *ansi617D* (the default value).

LmiPollTimer
The read-write Lmi polling timer value, which can be *sec5* (the default value), *sec10*, *sec15*, *sec20*, *sec25*, or *sec30*.

LmiWaitTimer
The read-write Lmi waiting timer value, which can be *sec5*, *sec10* (the default value), *sec15*, *sec20*, *sec25*, or *sec30*.

LmiFullEnqInt
A read-write integer value from *1* to *255* with the default being *10*.

LmiMon.Eve
A read-write integer value from *1* to *10* with the default being *5*.

ErrThres
A read-write integer value from *1* to *10* with the default being *3*.

Device Type
A read-write value that indicates port usage. For regular HDLC ports, only one connection can be made. All HDLC ports must be connected to an SDM I/O port. The possible values are *ad10*, *regularHdlc*, *networkToNetwork*, *userToNetwork*, and *networkToUser* (the default value).

Ad10NodeID
A read-write value giving the node address.

Ad10PortID
A read-write value giving the port address.

BitMode
A read-write value that can be *b7bit* or *b8bit* (the default value).

MaxFrmSize
A read-write integer value from *10* to *4096* (the default value).

SharedOFlag
A read-write status value, which can be *no* or *yes* (the default value).

Max CIR
A read-write integer value from *0* to *3000000*, in units of bps, that is used to determine how many packets per second the I/O to server connection

will require from the FSM module resources. The default value is *64000*.

AvgPktSize
A read-write value, which can be *b32*, *b64*, *b128*, or *b256* (the default value).

AllocPref
A read-write value, which can be *dontCare* (the default value), *fsm16*, or *fsm64*.

BillSegSize
This value has been deprecated. The default value is *pktsize*.

BillCntrl
This value has been deprecated. The default value is *disable*.

Part. ID
The partition identification, which is a read-write value from 1 to 1023).

Enc. Type
A read-write value that can be set to *nrz* (the default value), *nrzb*, *nrzi-space*, or *nrzi-mark*.

Packet Port Statistics View

This view provides the following fields.

Port Address
A read-only value giving the port address.

Seg Sent
The number of segments sent from the network to the user device on any of the DLCIs on this port.

Seg Rcvd
The number of segments received at the network from the user device on any of the DLCIs on this port.

Octet Sent
The number of octets sent from the network to the user device on any of the DLCIs on this port.

Octet Rcvd
The number of octets received at the network from the user device on any of the DLCIs on this port.

DLCI Disc
The number of frames discarded because the destination DLCI or sub-DLCI was not active.

BadAddrDisc
The number of frames discarded because the address field was not two bytes in length.

OvrSizeDisc
The number of frames received from the user device that were discarded because they exceeded the maximum frame size.

UndSizeDisc
The number of HDLC frames discarded because the frame was too short.

CRCDiscard
The number of HDLC frames discarded because the CRC was bad.

SwOvrRunDisc
The number of frames discarded because of port software buffer overrun.

UndRunDisc
The number of HDLC frames discarded because of underrun.

AbortDisc
The number of HDLC frames discarded because frame abort was received.

HwOvrRunDisc
The number of frames discarded because of port hardware overrun.

LmiSegSent
The number of LMI message segments sent.

LmiSegRcvd
The number of LMI message segments received.

LmiSyntErr
The number of LMI messages dropped due to syntax errors.

LmiWrongSeq
The number of LMI messages dropped due to incorrect sequence numbers

LmiPollTimout
The number of LMI messages dropped due to poll time outs. **LmiPollingTimer** controls the duration of this timer.

LmiWaitTimout
The number of LMI messages dropped due to wait time outs. **LmiWaitingTimer** controls the duration of this timer.

LmiTxSeqNum
LMI transmit sequence number.

LmiRxSeqNum
LMI receive sequence number.

LmiNumGoodEve
The number of good LMI events within the current monitor window. The size of this window is controlled by **LmiMon.Eve**.

LmiNumBadEve
The number of bad LMI events within the current monitor window. The size of this window is controlled by **LmiMon.Eve**.

LmiEveHist
The last eight LMI events, with each event requiring four bits. Bits 1, 2, 3, and 4 of the last octet represent the most recent event.

The event values are as follows:

1 - received status enquiry

2 - received full status enquiry

3 - received status

4 - received full status

5 - transmitted status enquiry

6 - transmitted full status enquiry

7 - transmitted status

8 - transmitted full status

9 - poll timer expired

10 - wait timer expired.

ST1kBundleApp

This application provides bundle configuration and status information.

The Icon Subviews menu for this application provides access to the device specific views listed below.

- Bundle Configuration on Page 122
- Bundle Status on Page 125

Bundle Configuration

This view provides the following fields.

Bundle Address
The bundle address. For BRM, bundle 1 is D-channel; bundle 2 and 3 are B-channels.

Start Mode
A read-write value of either *automatic*, *erase*, or *off* (the default value). *erase* will fail if the bundle has an unremoved INL or a channel that is not disconnected. Otherwise, it will erase the bundle configuration as well as the INL or channel defined on the bundle. It will also erase this bundle from the T1M, E1M, or BRM port bundle map.

Update
A read-write value of *loaded*, *updateReq*, or *resetReq* (the default value).

Signaling
A read-only value of *none* (the default value), *a*, *ab*, or *abcd*.

Nuddle Pattern
A read-write value of *space* or *mark* (the default value).

BWCntIdlePattern
A read-write value (listed below) of the bit pattern output to the equipment, indicating bundle availability.

a0-b0-c0-d0(16)	a1-b0-c0-d0(1)
a0-b0-c0-d1(8)	a1-b0-c0-d1(9)
a0-b0-c1-d0(4)	a1-b0-c1-d0(5)
a0-b0-c1-d1(12)	a1-b0-c1-d1(13)
a0-b1-c0-d0(2)	a1-b1-c0-d0(3)
a0-b1-c0-d1(10)	a1-b1-c0-d1(11)

a0-b1-c1-d0(6)	a1-b1-c1-d0(7)
a0-b1-c1-d1(14)	a1-b1-c1-d1(15)

T1M bundles have a default of *a0-b0-c0-d0*.

E1M bundles have a default of *a0-b1-c0-d1*.

BusyOutTimer
A read-write value with a default of *permanent*. The other possible values are *sec10* through *sec240* in increments of 10.

Preemption Time
A read-write value for the bandwidth contention channel. The default value is *none*. The other possible values are *ms250* through *ms950*, in increments of 50, as well as *s1* through *s10*.

SeizureTime
A read-write value for the bandwidth contention channel. The default value is *ms50*. The possible values are *ms50* through *ms1000*, in increments of 50.

ORGDisconnectTim
A read-write value for the bandwidth contention channel. The default value is *s180*. The possible values are *ms150* through *ms500*, in increments of 50, as well as *s10* through *s410*, in increments of 5. Units that start with “s” are in units of 1/10 seconds (e.g., s10 = 1.0 second).

BwCntBusyPattern
A read-write field for the bit pattern output to the equipment indicating bundle busy. The possible values are the same as for **BWCntIdlePattern** and also includes *254* (which means OOS) and *255* (which means reverse and is the default value). If the value is *254*, the busy pattern is the same as the OOS idle pattern. If the value is *255*, the busy pattern's A bit is the inverse of the A bit value from the bundle bandwidth contention idle pattern. For T1M bundles, the B, C, and D bits will follow the A bit of the busy pattern. For E1M bundles, the B bit will be 1, the C bit will be 0, and the D bit will be 1.

INL Number
A read-only value from *1* to *31*.

Device Type
A read-write field having a value ranging from *1* to *255*, with the default being *3*. This field indicates the type of device connected to the port as follows:

- Values *1* to *10* and *255* are reserved by ST-50, of which *1* is for voice, *2* is for switch 56, *3* is for clear channel, and *255* is for INL.
- Values *11* to *254* can be used to define user-specific device types.

For TDM channels connected between I/O ports, the channel will not connect if the device types do not match. For I/O to server port connections, the device types will not be compared.

This field is not used by the ST-1000 node if the bundle type is Null or INL. If the bundle type is INL but this field is other than *255*, the INL will not be failed. If the bundle type is not INL but this field is *255*, the channel defined on this port will still be able to connect.

Contention Set
A read-write field that defines the type of contention application. It has the possible values of *signalInvert*, *fxo*, *fxs-ard*, *fxs*, *disable* and *em* (the default value). If the bundle type is not Bandwidth Contention, this field is ignored. Use the contention types as follows:

- *em* is used for E&M connections.
- *fxo* is used for FXO channels in FXO/FXS contention mode.
- *fxs* is used for FXS channels in FXO/FXS contention mode.
- *fxs-ard* is used for FXS auto ring down channels in contention mode.
- *signalInvert* is no longer used.

Partition ID
A read-write value from *1* to *1023*.

OOSA Signaling
A read-write field with the possible values *space*, *mark*, *markSpace*, and *spaceMark* (the default value).

OOSB Signaling
A read-write field with the possible values *space*, *mark*, *markSpace*, and *spaceMark* (the default value).

OOSCD Signaling
A read-write field with the possible values *spaceSpace*, *markMark*, *markSpace*, and *spaceMark* (the default value).

Attenuation Rx
A read-write field giving the voice channel receive attenuation. The possible values are *p3db*, *p6db*, *p9db*, and *p0db* (the default value).

AttenuationTx
A read-write field giving the voice channel transmit attenuation. The possible values are *p3db*, *p6db*, *p9db*, and *p0db* (the default value).

Bundle Status

This view provides the following fields.

Bundle Address
A read-only value giving the bundle address.

Status
A read-only field that gives the bundle status, which is always enabled if the bundle is an INL. The possible values are *active*, *inactive*, and *unknown* (which means that the bundle is undefined).

BwCntStatus
The read-only bandwidth contention status. The possible values are *active*, *inactive*, *busy*, and *unknown*.

MillWattSignal
A read-write field that controls the tone generator for channels. The possible values are *255* (which means disable) plus those listed below.

a0-b0-c0-d0(16)	a1-b0-c0-d0(1)
a0-b0-c0-d1(8)	a1-b0-c0-d1(9)
a0-b0-c1-d0(4)	a1-b0-c1-d0(5)
a0-b0-c1-d1(12)	a1-b0-c1-d1(13)
a0-b1-c0-d0(2)	a1-b1-c0-d0(3)
a0-b1-c0-d1(10)	a1-b1-c0-d1(11)
a0-b1-c1-d0(6)	a1-b1-c1-d0(7)
a0-b1-c1-d1(14)	a1-b1-c1-d1(15)

DSOMap
A read-only octet string.

SignalA
A read-only value, which can be *on*, *off*, or *notApplicable*.

SignalB
A read-only value, which can be *on*, *off*, or *notApplicable*.

SignalC
A read-only value, which can be *on*, *off*, or *notApplicable*.

SignalD
A read-only value, which can be *on*, *off*, or *notApplicable*.

OutSigA
A read-only value, which can be *on*, *off*, or *notApplicable*. This is not supported on T1M and E1M 4-port hardware configurations.

OutSigB
A read-only value, which can be *on*, *off*, or *notApplicable*. This is not supported on T1M and E1M 4-port hardware configurations.

OutSigC
A read-only value, which can be *on*, *off*, or *notApplicable*. This is not supported on T1M and E1M 4-port hardware configurations.

OutSigD
A read-only value, which can be *on*, *off*, or *notApplicable*. This is not supported on T1M and E1M 4-port hardware configurations.

ST1kE1PortApp

This application provides E1M port configuration and status information.

The Icon Subviews menu for this application provides access to the device specific views listed below.

- E1M Port Configuration on Page 127
- E1M Port Statistics on Page 129

E1M Port Configuration

This view provides the following views.

Port Address

A read-only field giving the port address. For E1M ports, the format is `shelf.module.1-4`. For E1 tributaries on an E3M, the format is `shelf.module.101-116` for the first E3 port (shelf.module.1) and `shelf.module.201-216` for the second E3 port (shelf.module.2).

Start Mode

A read-write field having the possible values of *`erase`*, *`automatic`*, and *`off`* (the default value). *`erase`* will fail if the port has any unremoved INLs or channels that are not disconnected. Otherwise, it will display the port's configuration to its default values and erase any bundles, INLs, and channels on the port.

Update

A read-only field having the possible values of *`loaded`*, *`updateReq`*, and *`resetReq`* (the default value).

Framing

A read-write field having the possible values of *`g732s`* or *`g732n`* (the default value).

CRC Multiframing

A read-write field having the possible values of *`enable`* or *`disable`* (the default value).

National Bit

A read-write integer value from *`1`* to *`31`* (the default value).

International

A read-write integer value of *`0`* or *`1`* (the default value).

Bundle Map
A read-write octet string. Each byte represents a DS0 in an E1 Port, starting with 1 from the right most byte. The bundle is identified by the number of the lowest DS0 of the bundle. If framing is g732s, time slot 16 is reserved to be a signaling byte.

Transmit E Bit
A read-write field with a value of *enable* or *disable* (the default value).

Receive E Bit
A read-write field with a value of *monitor* or *ignore* (the default value).

Fail Threshold
A read-write value from *1* to *9*, with *2* being the default value. If port BER quality is below this threshold for ten seconds, a Port Down alarm will be sent.

Error Threshold
A read-write value from *0* to *65535* (the default value).

Severe Threshold
A read-write value from *0* to *65535* (the default value).

Alarm Threshold
A read-write value from *1* to *9*. If port BER quality is below this threshold for four seconds, a Port Error alarm will be sent. The default value is *3*.

Fail Toggle Req
A read-write field giving the toggle request as *toggleIfPortFail* (the default value) or *noToggle*.

OOSBit Pattern
A read-write field having a value of *x7f*, *x1a*, *xd5* (the default value), or *x7e*.

OOSA Signalling
A read-write field having a value of *space*, *mark*, *spaceMark* (the default value), or *markSpace*.

OOSB Signalling
A read-write field having a value of *space*, *mark*, *spaceMark* (the default value), or *markSpace*.

OSCD Signalling
A read-write field having a value of *space*, *mark*, *spaceMark* (the default value), or *markSpace*.

Signl Version
A read-write field having the value *inverted* or *normal* (the default value).

E1M Port Statistics

This view provides the following fields.

Index
A read-only value from *1* to *96*.

Lost Frame
A read-only value from *0* to *65535*.

Port Address
A read-only value for the port address.

UnavailSec
A read-only value from *0* to *65535*.

Start Time
A read-only value indicating the start time of this statistics interval. The value is the number of seconds since midnight on January 1, 1970.

BstyErrSec
A read-only value from *0* to *65535*.

SevErrSec
A read-only value from *0* to *65535*.

ErrSec
A read-only value from *0* to *65535*.

ST1kT1PortApp

This application provides T1M port configuration and status information.

The Icon Subviews menu for this application provides access to the device specific views listed below.

- T1M Port Configuration on Page 130
- T1M Port Statistics on Page 132

T1M Port Configuration

This view provides the following fields.

Port Address
A read-only value for the port address.

Start Mode
A read-write field having a value of *automatic*, *erase*, or *off* (the default value). *erase* will fail if the port has any unremoved INLs or channels that are not disconnected. Otherwise, it will display the port's configuration to its default values and erase any bundles, INLs, and channels on the port.

Update
A read-only field having the value *loaded*, *updateReq*, or *resetReq* (the default value).

Framing
A read-write field having the value *sf*, *attESF*, or *ansiESF* (the default value).

Line Code
A read-write field having the value *b8zs* (the default value), *ami*, or *zeroCodeSuppression*.

DS1 Option
A read-write field that refers to the line build out of the T1M port. The values are interpreted as follows: *a* (the default value) is 0 dB, *b* is -7.5 dB, and *c* is -15 dB.

DSX1 Distance
A read-write field having one of the following values: *from0to133ft* (the default value), *from134to266ft*, *from267to399ft*, *from400to533ft*, *from534to655ft*, or *fccOptionA*.

Bundle Map
A read-write octet string. Each byte represents a DS0 in a T1 Port, starting with *1* from the right most byte. The bundle is identified by the number of the lowest DS0 of the bundle.

EQUGain
A read-write field having the value *g26db* or *g36db* (the default value).

Error Threshold
A read-write value ranging from *0* to *65535* (the default value).

Severe Threshold
A read-write value ranging from *0* to *65535* (the default value).

Alarm Threshold
A read-write value ranging from *1* to *9.* The default value is *3*. If port BER quality is below this threshold for four seconds, a Port Error alarm will be sent.

Fail Toggle Request
A read-write field having a value of *noToggle* or *toggleIfPortFail* (the default value).

OOSBit Pattern
A read-write field having a value of *x7e*, *x1a*, *xd5*, or *x7f* (the default value).

OOSA Signalling
A read-write field having a value of *space*, *mark*, *spaceMark* (the default value), or *markSpace*.

OOSB Signalling
A read-write field having a value of *space*, *mark*, *spaceMark* (the default value), or *markSpace*.

OOSCD Signalling
A read-write field having a value of *spaceSpace*, *markMark*, *spaceMark* (the default value), or *markSpace*.

Signal Version
A read-write field having the value *inverted* or *normal* (the default value).

Fail Threshold
A read-write value from *1* to *9*. If port BER quality is below this threshold for ten consecutive seconds, a Port Down alarm will be sent. The default value is *2*.

T1M Port Statistics

This view provides the following fields.

Index
A read-only value ranging from *1* to *96*.

Lost Frame
A read-only value ranging from *0* to *65535*.

Port Address
A read-only value for the port address.

UnavailSec
A read-only value ranging from *0* to *65535*.

Start Time
A read-only value indicating the start time of this statistics interval. The value is the number of seconds since midnight on January 1, 1970.

BstyErrSec
A read-only value ranging from *0* to *65535*.

SevErrSec
A read-only value ranging from *0* to *65535*.

ErrSec
A read-only value ranging from *0* to *65535*.

ST1kSdmPortApp

This application provides SDM port configuration and status information.

The Icon Subviews menu for this application provides access to the SDM Port Configuration view, described below.

SDM Port Configuration View

This view provides the following fields, including fields contained in the Detail views obtained by double-clicking an entry in the view.

Port Address
The SDM port address.

Start Mode
A read-write field having a value of *automatic*, *erase*, or *off* (the default value). *erase* will fail if the port has any unremoved INLs or channels that are not disconnected. Otherwise, it will display the port's configuration to its default values and erase any INLs and channels on the port.

Update
A read-only field having a value of *loaded*, *updateReq*, or *resetReq* (the default value).

Speed
A read-write field giving the port speed. The possible values are listed below.

s1200	s2400	s4800	s7200
s9600	s14400	s19200	s38400
s48000	bsf448k	bsf896k	bsf1344k
b64k	b128k	b192k	b256k
b320k	b384k	b512k	b576k
b640k	b704k	b768k	b832k
b960k	b1024k	b1088k	b1152k
b1216k	b1280k	b1408k	b1472k
b1536k	b1600k	b1664k	b1728k
b1792k	b1856k	b1920k	b1984k
b2048k	sf56k	sf112k	sf168k
sf224k	sf280k	sf336k	sf392k
sf504k	sf560k	sf616k	sf672k
sf728k	sf784k	sf840k	sf952k
sf1008k	sf1064k	sf1120k	sf1176k
sf1232k	sf1288k		

- s is for subrate speeds.
- b is for bundle speeds (n x 64K).
- sf is for stuffed speeds (n x 56K).
- bsf is for speeds that can be bundled (b8bit) or stuffed (b7bit) depending on the value of **Bit Mode**.
- sf56k is switched 56k if **Device Type** is *2*.
- The default value is *b64k.*

Interface
A read-write field with a possible value of *dte1* (the default value), *dte2*, *dte3*, *dce1*, *dce2*, or *dce3*.

TxClockSource
A read-write field with a possible value of *receive*, *send*, or *system* (the default value).

Bit Mode
A read-write field with a possible value of *b7bit* or *b8bit* (the default value).

OOSOper
A read-write field with a possible value of *doNothing* (the default value), *forceFNS*, *mark*, *markFF*, *space*, or *spaceFF*.

PortGen
A read-write field with a possible value of *dsrDtr* or *trans* (the default value).

Polarity
A read-write field with a possible value of *inverted* or *normal* (the default value).

Port Type
A read-write field with a possible value of *null* (the default value), *io*, *bandContent*, *inl*, or *fsm16Connect*.

INL Number
A read-only field with a value ranging from *0* to *31*, with *0* being the default value. This field is applicable only if **Port Type** is set to *inl*.

Device Type
A read-write field that shows the type of device connected to the port. The default value is *3*. The possible values are as follows:

- Values *1* through *10* and *255* are reserved by ST-50, of which *1* is for voice, *2* is for switch 56, *3* is for clear channel, and *255* is for INL.
- Values *11* through *254* can be defined by you for other device types.

For TDM channels connected between I/O ports, the channel will not connect if the device types do not match. For I/O to server port connections, the device types will not be compared.

This field is not used by the ST-1000 node if **Port Type** is *null* or *inl*. If **Port Type** is *inl* but this field is not *255*, the INL will not be failed. Also, if

Port Type is not *inl* but this field is *255*, the channel defined on this port will still be able to connect.

PartitionID
A read-write value giving the partition number from *1* through *1023*.

Functions
A read-write field. The default value is *00*.

- The four least significant bits represent whether the function mapped to that bit should be forced or not.
  - bit 1 (lsb) means DSR if DCE, DTR if DTE
  - bit 2 means DCD if DCE, RTS if DTE
  - bit 3 is reserved
  - bit 4 means CTS if DCE, reserved if DTE
- The four most significant bits represent what the function mapped to that bit should be forced to when that function is suppose to be forced.
  - bit 5 means DSR if DCE, DTR if DTE
  - bit 6 means DCD if DCE, RTS if DTE
  - bit 7 is reserved
  - bit 8 means CTS if DCE, reserved if DTE

ContentionSet
A read-write field with a value of *f1nf1*, *f2nf2*, *f4nf4*, *nf4f4*, or *disable* (the default value).

LoopbackSupport
A read-write field that indicates whether the SDM port should support the signals for LL, RL, and TM. The possible values are *none* (the default value), *ll*, *rl*, *tm*, *llRl*, *llTm*, *rlTm*, or *llRlTm*. If a signal is supported, that loopback signal will be recognized by the SDM. Otherwise, the signal will be ignored.

SatelliteBuffer
A read-write field having the value *enable* or *disable* (the default value).

FailToggleRequest
A read-write field having the value *noToggle* or *toggleIfPortFail* (the default value).

KGPolarity
A read-write field specifying the polarity of the KG-resync signal and having the value *kgNegative* (the default value) or *kgPositive*.

.KGSignalType
A read-write field specifying the type of KG-resync signal and having the value *kgPulse* (the default value) or *kgLevel*.

KGMode
A read-write field specifying the type of KG-resync signal and having the value *kgDisable* (the default value) or *kgEnable*.

ST1kAsmApp

This application provides ASM resource utilization and status information.

The Icon Subviews menu for this application provides access to the device specific views listed below.

- ASM Resource Utilization on Page 136
- ASM Module Status on Page 137
- ASM Engine Status on Page 137
- Application Status on Page 138

ASM Resource Utilization

This view provides the following fields.

Address
The slot address.

Partition
A read-write field. Each two bytes is the partition ID of a physical engine on the module. Partition 1 is for CNMS. Partition 0xFFFE is for any partition. Changing this field will not change the current port allocation but will affect any new server ports being allocated.

CelpPartition
A read-write field. Each two bytes is the partition ID of a CELP license on the module. Partition 1 is for CNMS. Partition 0xFFFE is for any partition. Changing this field will not change the current port allocation but it will affect any new server ports being allocated.

MinCelpPorts
A read-write value, ranging from *0* through *16*, that defines the number of ASM ports that cannot be used for anything but a CELP application. The default value is *0*.

ApplType
A read-write field having a value of *x50*, *celp-atc*, *adpcm*, or *mixed* (the default value). This field allows you to specify a specific application type to be allocated to this ASM module. Ports with other application types will not be able to be allocated on this module.

- If the subtype of this particular ASM module does not support the application type specified here, the module will still come up

but no ports will be able to be allocated. If this occurs, the restModApplTable section of the MIB will indicate that no applications are available.

- If a setting of *mixed* is specified, allocation of a port with a particular application will only be restricted by the subtype of the module.

ASM Module Status

This view provides the following fields.

Addr
The slot address.

MaxCelp
The number of CELP licenses on the module.

NumCelpAvail
The number of CELP licenses on the module that are not in use.

TotalEngines
The total number of DSP engines on the module.

AvailEngines
The currently available (unused) number of DSP engines on the module.

TotalSafScfs
The total number of SAFs and SCFs that can be allocated on this ASM module.

AvailSafScfs
The currently available (unused) number of SAFs and SCFs on this ASM module.

ASM Engine Status

This view provides the following fields.

Addr
The physical address of the ASM module.

EngineID
The engine ID on the ASM module.

Diagnostics
This field is not currently used.

EngineStatus
A read only field having the possible values of *x50*, *celp*, *adpcm*, *free*, *removed*, *normal*, or *failed*. These applications cannot be on the same engine at the same time.

NumPorts
A read-only field giving the number of application ports.

NumSAFs
A read-only field giving the number of SAF ports. *0* displays if there are none.

NumSCFs
A read-only field giving the number of SCF ports. *0* displays if there are none.

Application
A read-only field indicating the type of application allocated on this DSP engine, if any. The possible values are *x50*, *celp-atc*, *adpcm*, and *none*.

Application Status

This view provides the following fields.

Addr
The slot address.

ApplType
The ASM application type. The possible read-only values are *x50*, *celp-atc*, and *adpcm*.

MaxPortsAllowed
A read-only field giving the maximum number of ports that can be allocated on the ASM module running the specified application. This value assumes that the module is running no other applications. This value is based on the following factors:

- total number of DSP engines on the module
- total number of ports allowed on the module
- total number of application licenses on the module, if the application is licensed
- module application type

CurPortsAllowed
A read-only field giving the current number of ports that can be allocated on the ASM module running the specified application. This determines how many ports can still be allocated based on what resources are currently allocated on the module. It indicates how many more ports of this application can be added if all new allocations are ports running this application. The total number of ports that can still be allocated in a mixed application scenario is not the sum of all of these values for each application. This value is based on the following factors:

- the number of unallocated DSP engines
- the available ports on DSP engines that are already allocated for this application type
- the number of ports that can still be allocated on the module
- the number of licenses available, if the application is licensed
- the module application type

CurPortsAllocated
A read-only field giving the current number of ports that are allocated on the ASM module and are running the specified application.

EnginesUsed
A read-only field giving the total number of DSP engines on the ASM module that are currently allocated for this application type.

EnginesRsvd
A read-only field giving the total number of unallocated DSP engines on the ASM module that are reserved for this application type.

TotalLicenses
A read-only field giving the total number of licenses available on the ASM module for this application type. *0* is displayed if the application is unlicensed.

AvailLicenses
A read-only field giving the count of the licenses on the ASM module for this application type that are not currently in use. *0* is displayed if the application is unlicensed.

ST1kVoiceApp

This application provides ASM voice configuration and statistics information.

The Icon Subviews menu for this application provides access to the device specific views listed below.

- ASM Voice Application Administration on Page 140
- ASM Voice Application Status on Page 146
- ASM Voice Port Statistics on Page 148

ASM Voice Application Administration

This view provides the following fields.

Address
The address of the voice trunk group.

StartMode
A read-write field having a value of *off* (the default value) or *erase*. Changes will not affect channels that are already connected. *erase* will fail if there are any voice channels connected that are using this trunk group MIB.

Port
The read-write port address that defines the T1M/E1M port that this voice trunk group may be connected to. The range of available bundles is determined by this field and the values of **LowElement** and **HighElement**.

LowElement
A read-write field. Changes will not affect channels that are already connected. This is the low end of the element range available for use by this voice trunk group on the T1M/E1M port set in **Port**. If the value of this field is the same as **HighElement**, this voice port is not a contention port. If the value of this field is greater than **HighElement**, this trunk group is invalid and any attempt to connect a channel using this trunk group will fail.

HighElement
A read-write field. Changes will not affect channels that are already connected. This field is the high end of the element range available for use by this voice trunk group on the T1M/E1M

port set in **Port**. If the value of this field is the same as **LowElement**, this voice port is not a contention port. If the value of this field is less than **LowElement**, this trunk group is invalid and any attempt to connect a channel using this trunk group will fail.

RemoteNodeID
The node address. Changes will not affect channels that are already connected. This is the node that any voice subrate channel using this trunk group will connect to. It may be the same as the local node that this voice trunk group is defined on.

RemoteAddr
The port address. Changes will not affect channels that are already connected. This is the trunk group used for the remote end of any voice subrate channel using this trunk group.

PartitionID
A read-write value ranging from *1* through *1023*. Changes will not affect channels that are already connected. This is the partition ID of this trunk group and is used to enforce security on a shared node.

CompressMode
A read-write field having a value of *tCelp* (the default value), *atc*, or *adpcm*. Changes will not affect channels that are already connected. This field defines which compression algorithm to use for voice channels connected using this voice trunk group.

GrpSpeed
A read-write field having one of the values listed below. The default value is *b8000*.

b5333	b7200	b7466	b8000
b8533	b9066	b9600	b10133
b10666	b11200	b11733	b12266
b12800	b13333	b13866	b14400
b14933	b15466	b16000	b16533
b17066	b17600	b18133	b18666
b19200	b19733	b20266	b20800
b21333	b21866	b22400	b22933
b23466	b24000	b24533	b25066
b25600	b26133	b26666	b27200
b27733	b28266	b28800	b29333
b29866	b30400	b30933	b31466
b31733	b32000	b36000	

Changes will not affect channels that are already connected. This field represents the compressed

channel data rate for any voice subrate connections using this voice trunk group.

- For channels using a CELP compression algorithm, only speeds of 5.333, 7.2, 8, and 9.6 will be supported.
- For channels using the ATC compression algorithm, only the speeds between 7.466 Kbps and 32 Kbps will be supported.
- For channels using the ADPCM compression algorithm, only the speeds 31.733 and 32.000 Kbps will be supported.

SignalingType
A read-write field having a value of *none* (the default value), *a*, *ab*, *abcd*, *ac15-dtmf*, or *ac15-dp*. Changes will not affect channels that are already connected. This is the type of signaling used by the T1M/E1M bundles that connect to voice ports using this trunk group.

DTMFRelay
A read-write field having a value of *enable* (the default value) or *disable*. Changes will not affect channels that are already connected. This field controls the DTMF relay on any ASM voice ports that use this trunk group. When enabled, DTMF signals are transferred through the connection. This field is not applicable in the ADPCM mode.

FaxRelay
A read-write field having a value of *enable* (the default value) or *disable*. Changes will not affect channels that are already connected. This field controls the fax relay on any ASM voice ports that use this trunk group. When enabled, fax operation will be supported over the connection. This field is not applicable in the ADPCM mode.

NSFMode
A read-write field having a value of *enable* (the default value) or *disable*. Changes will not affect channels that are already connected. This field controls the non-standard fax mode on any ASM voice ports that use this trunk group. This field is not applicable in the ADPCM mode.

AudSrcMode
A read-write field having a value of *silence*, *toneDMW*, *or normal* (the default value). Changes will not affect channels that are already connected. This field controls the transmit audio source on any ASM voice ports that use this trunk group.

AudOutMode
A read-write field having a value of *silence*, *toneDMW*, *or normal* (the default value). Changes will not affect channels that are already connected. This field controls the receive audio

output on any ASM voice ports that use this trunk group.

EchoCancel
A read-write field having a value of *enable* (the default value) or *disable* and controls the echo cancellation on any ASM voice ports that use this trunk group. Changes will not affect channels that are already connected.

NonLinear
A read-write field that has the value *enable* (the default value) or *disable* and controls the non-linear processing inside the echo canceller on any ASM voice ports that use this trunk group. The non-linear processor removes residual echo from the returned signal. Changes will not affect channels that are already connected.

DataMode
A read-write field that has the value *enable* (the default value) or *disable* and controls the 2100 Hz detection logic and data mode operation with the ATC vocoder on any ASM voice ports that use this trunk group. Changes will not affect channels that are already connected.

TxPCMGain
A read-write field that controls the transmit PCM gain on any ASM voice ports that use this trunk group. The range is defined from -33.0 to +18.0 dB with 0.2 dB increments. The default is 0 dB. Changes will not affect channels that are already connected.

RxPCMGain
A read-write field that controls the receive PCM gain on any ASM voice ports that use this trunk group. The range is defined from -33.0 to +18.0 dB with 0.2 dB increments. The default is 0 dB. Changes will not affect channels that are already connected.

VocoderEnable
A read-write field having a value of *normal* (the default value) or *disable*. Changes will not affect channels that are already connected. This field controls the vocoder mode on any ASM voice ports that use this trunk group. This field is not applicable in ADPCM mode.

SigIdlePttrn
A read-write field having the possible values listed below, with the default being *a0-b0-c0-d0*.

a0-b0-c0-d0	a0-b0-c0-d1	a0-b0-c1-d0
a0-b0-c1-d1	a0-b1-c0-d0	a0-b1-c0-d1
a0-b1-c1-d0	a0-b1-c1-d1	a1-b0-c0-d0
a1-b0-c0-d1	a1-b0-c1-d0	a1-b0-c1-d1

a1-b1-c0-d0	a1-b1-c0-d1	a1-b1-c1-d0
a1-b1-c1-d1		

This field defines the idle signaling pattern on any ASM voice ports that use this trunk group. This pattern is delivered to receive signal channel connections at times prior to the availability of a verified reliable signal channel. Changes will not affect channels that are already connected.

PCMPhasorSize

A read-write value ranging from *4* through *255*, the default being *16*. Changes will not affect channels that are already connected. This field defines the size of the phasor (in bytes) on the PCM (64K) side of any ASM voice port using this trunk group.

SubratePhSize

A read-write value ranging from *4* through *255*, the default being *16*. Changes will not affect channels that are already connected. This field defines the size of the phasor (in bytes) on the subrate side of any ASM voice port using this trunk group.

LocalSigConf

A read-write field having a value of *fxs-ard* (the default value), *fxo*, or *fxs*, or *em*. Changes will not affect channels that are already connected. This field defines AD-10 and ASM signaling incompatibility parameters.

RemoteSigConf

A read-write field having a value of *other* (the default value), *ad10Fxs*, *ad10Fxo*, or *ad10Em*. Changes will not affect channels that are already connected. This field defines AD-10 and ASM signaling incompatibility parameters.

RmtSigPattern

A read-write field that has one of the values listed below, the default being *a0-b0-c0-d0*.

a0-b0-c0-d0	a0-b0-c0-d1	a0-b0-c1-d0
a0-b0-c1-d1	a0-b1-c0-d0	a0-b1-c0-d1
a0-b1-c1-d0	a0-b1-c1-d1	a1-b0-c0-d0
a1-b0-c0-d1	a1-b0-c1-d0	a1-b0-c1-d1
a1-b1-c0-d0	a1-b1-c0-d1	a1-b1-c1-d0
a1-b1-c1-d1		

This field defines the remote signaling pattern on any ASM voice ports that use this trunk group. This pattern is delivered to receive signal channel connections at times prior to the availability of a verified reliable signal channel source.

CelpNetSigMd
A read-write field having a value of *auto*, *link*, or *st* (the default value). This field is used to enable autodetection of CELP/ATC channel connected equipment so as to automatically change format to become compatible with either LINK (5 byte) or ST (8 byte) channel modes. Alternately, this field hard sets CELP/ATC channels to be compatible only with either LINK or ST mode compatible equipment.

SearchDir
A read-write field having a value of *lowHigh* or *highLow* (the default value). This field indicates the search order within the range specified by the **LowElement** and **HighElement** fields.

ToneDisabler
A read-write field having a value of *g165* (the default value), *g164*, or *disable*. This field controls whether a 2100 Hz signal on this voice channel will disable the echo canceller. *g165* means that a 2100 Hz signal with phase reversals will disable the echo canceller. *g164* means that a 2100 Hz signal with or without phase reversals will disable the echo canceller. *disable* means that a 2100 Hz signal will not disable the echo canceller. This field is ignored for PCM and CELP/ATC voice channels.

MaxErl
A read-write field having a value of *dB-1*, *dB-3*, or *dB-6* (the default value). This field provides a measure of the return loss on the local circuit. Setting this value too high on a nominal circuit will result in divergence. Setting this value too low on a high return circuit will result in no echo cancellation. This field is ignored for PCM and CELP/ATC voice channels.

HRegCtrl
A read-write field having a value of *freeze* or *run* (the default value). This field allows the H register to freeze or continue to adapt for optimal echo cancellation. This field is ignored for PCM and CELP/ATC voice channels.

CmftNoiseCtrl
A read-write field having a value of *off* or *on* (the default value). This field controls whether the echo canceller will inject noise to the far end after the non-linear processing. This eliminates the dead air that can occur with non-linear processing. This field is ignored for PCM and CELP/ATC voice channels.

TailLength
A read-write field having a value of *ms-16* (the default value), *ms-32*, *ms-48*, or *ms-64*. This field controls the tail length used by the echo canceller. A smaller tail length will improve the echo

canceller performance. However, if the tail length is set too small, it will make the echo cancellation ineffective. This field is ignored for PCM and CELP/ATC voice channels.

ASM Voice Application Status

This view provides the following fields.

ChannelAddr
The address of the T1M/E1M bundle that is being used by this port while connected. If it is disconnected, the field displays an error.

PortAddr
The ASM voice port physical address, in the format `nest:slot:port`.

TrkGrpAddr
The address of the trunk group to which this ASM voice port is assigned.

Engine
The ASM module DSP number allocated for this voice port.

PacketSize
The size of compressed data block. (This field may not be supported in your release of the product.)

BlockSize
The size of uncompressed data block. (This field may not be supported in your release of the product.)

EchoCancel
A read-only string. The bit mask is as follows:

- bit 0 (lsb) is divergence (0-normal, 1-diverge)
- bit 1 is reserved
- bit 2 is filter (0-disabled, 1-enabled)
- bit 3 is adaptation (0-frozen, 1-adapting)
- bits 4 through 7 (msb) are reserved.

(This field may not be supported in your release of the product.)

DTMFRelay
A read-only string. The bit mask is as follows:

- bits 0 (lsb) through 3 are detected character
  - 0 through 9 is digit 0 through 9
  - 10 is the character *
  - 11 is the character #
  - 12 through 15 are characters A through D
- bits 4 and 5 are digit type (00 - DTMF)
- bit 6 is digit generation (0-off, 1-on)
- bit 7 (msb) is digit detect (0-none, 1-detected)

(This field may not be supported in your release of the product.)

FaxRelay
A read-only string. The bit mask is as follows:

- bits 0 (lsb) through 4 are modulation type
  - 0 is V.21 300 bps
  - 1 is V.27 2400 bps
  - 2 is V.27 4800 bps
  - 3 is V.29 7200 bps
  - 4 is V.29 9600 bps
- bit 5 is reserved
- bit 6 is id demodulation (0-off, 1-on)
- bit 7 (msb) is modulation (0-off, 1-on)

(This field may not be supported in your release of the product.)

PortPacket
A read-only string. The bit mask is as follows:

- bit 0 (lsb) is sync init (1-initializing)
- bit 1 is sync acq (1-sync searching)
- bit 2 is sync ver (1-verifying sync)
- bit 3 is sync mon (1-normal)
- bit 4 is sync loss (1-frame sync loss)
- bit 5 is sync loss time-out (1-occurred)
- bit 6 is reserved
- bit 7 (msb) is HBER (1-BER > 10)

(This field may not be supported in your release of the product.)

SubratePhasor
A read-only string. All bits zero indicates normal. The bit mask is as follows:

- bit 1 (lsb) is receive phasor underflow
- bit 2 is receive phasor overflow
- bits 3 through 8 are reserved
- bit 9 is transmit phasor underflow
- bit 10 is transmit phasor overflow
- bits 11 through 16 are reserved

The value will be *x8080* if the port does not have a phasor.

SignalingLOS
The signaling LOS status. The possible values are *inSync* or *los*.

FrameLOS
The frame LOS status. The possible values are *inSync* or *los*.

CelpNetSigSt
A read-only field having the value *indeterminate*, *st*, or *link*.

- When **CelpNetSigMd** is set to *auto* (auto detection mode), this field indicates whether the CELP/ATC channel connected is running in either LINK (5 byte) or ST (8 byte) mode.
- If autodetection is disabled, this field reflects the value of **CelpNetSigMd**.

- This field displays *indeterminate* if the channel is not connected, if it is running some other voice type, or if the channel is not currently maintaining validated channel signaling synchronization.

EchoCancel
A read-only field that indicates the current state of the echo canceller. The possible values are *enabled*, *disabled*, *toneDisabled*, *diverged*, *miscellaneousFailure*, and *notApplicable*. The values are interpreted as follows:

- *enabled* means that the echo canceller is cancelling.
- *disabled* means that the echo canceller is not cancelling because it is not enabled in the voice profile or voice trunk group configuration.
- *toneDisabled* means that the echo canceller is not cancelling due to the presence of a 2100 Hz tone disable signal.
- *diverged* means that the echo canceller has determined that it cannot cancel the near end with the current configuration and near end circuit.
- *miscellaneousFailure* means that the echo canceller is not cancelling for an unknown reason.

ASM Voice Port Statistics

This view provides the following fields.

ChanAddr
The address of the T1M/E1M bundle that is being used by this port while connected. An error is displayed if it is disconnected.

FrameOOSs
A read-only counter of frame OOS statistics.

SignalOOSs
A read-only counter of signaling OOS statistics.

HighBERs
A read-only counter of HBER statistics.

ST1kAsmX50App

This application provides ASM X50 configuration and statistics information.

The Icon Subviews menu for this application provides access to the device specific views listed below.

- X50 Configuration Administration on Page 149
- ASM X50 Status on Page 151
- ASM X50 Statistics on Page 152

X50 Configuration Administration

This view contains two areas, which are described below; X50 Port Administration and X50 Circuit Administration.

X50 Port Administration

This area of the X50 Configuration Administration view provides the following fields.

Addr
The port address.

StartMode
A read-write field having a possible value of *automatic*, *erase*, or *off* (the default value).

Update
A read-only field having a possible value of *loaded* or *resetReq* (the default value).

Speed
A read-only field having a default value of *b64000*.

Protocol
A read-write field having the possible value *div2* (the default value), *div3*, or *ad7*.

IdlePattern
A read-write value ranging from *0* through *127*. The default is *45*.

OosTimer
A read-write field giving the time before the port will go out of service. The possible values are *sec3* through *sec30* and *disabled*. The default is *sec3*. If the value is *disabled*, the port will never go to OOS.

PhasorSize
A read-write field having a value of *p4*, *p8*, or *p16* (the default value).

TxHouseKbits
A read-write field with a default value of *00h*. The following is the map between bits in the bit map and housekeeping bits: bit 0 (lsb) is H, bit 1 is G, bit 2 is F, bit 3 is E, bit 4 is D, bit 5 is C, bit 6 is B, and bit 7 is reserved.

CircuitMap
A read-only field. Each byte indicates the usage of the circuit on the X.50 aggregate. *1* means defined and *0xFF* means undefined.

PartitionID
A read-write value ranging from *1* through *1023*.

X50 Circuit Administration

This area of the X50 Configuration Administration view provides the following fields.

Addr
The ASM X50 address.

StartMode
A read-write field having a possible value of *automatic*, *erase*, or *off* (the default value).

Update
A read-only field having a possible value of *loaded* or *resetReq* (the default value). If this field is set to *resetReq*, you need to reset the ASM X.50 circuit.

Speed
A read-write field having a value of *s2400*, *s4800*, *s9600* (the default value), or *s19200*.

TimeSlot
A read-write field having one of the values listed below. The default is *a*.

ab	cd	a	b	c
d	e	a1	a2	a3
a4	b1	b2	b3	b4
c1	c2	c3	c4	d1
d2	d3	d4	e1	e2
e3	e4			

PhasorSize
A read-write field having a value of *p4*, *p6*, *p8*, *p12*, or *p16* (the default value).

SbitConnectState
A read-write field having the value *zero* or *one* (the default value).

ASM X50 Status

This view contains two areas described below, i.e., X50 Port Status and X50 Circuit Status Administration.

X50 Port Status Administration

This field provides the following fields.

Addr
The port address.

Engine
A read-only field that indicates which DSP on the ASM module the port has been allocated to.

RxHouseKbits
A read-only field. The bit to housekeeping bit map is as follows: 0 (lsb) is H, 1 is G, 2 is F, 3 is E, 4 is D, 5 is C, 6 is B, and 7 is not used.

CktTimeSlotMap
A read-only field. Each byte (1 through 20) indicates which circuit is using that time slot.

AggrStatus
A read-only field giving the specific ASM X50 status as one of the following values: *pending*, *inSync*, *los*, *ros*, *losRos*, *oos*, or *loopback*.

X50 Circuit Status Administration

This view provides the following fields.

Addr
The ASM X50 address.

CkSbitStatus
A read-only field having the value *one* or *zero*.

PhasorStatus
A read-only field having bit values as listed below.

Bit	Indicates
1 (lsb)	receive phasor underflow
2	receive phasor overflow
3	receive phasor empty
4	receive phasor full
5	receive phasor fifo error
6-7	reserved
8	receive phasor not applicable
9	transmit phasor underflow
10	transmit phasor overflow
11	transmit phasor empty
12	transmit phasor full
13	transmit phasor fifo error
14-15	reserved
16	transmit phasor not applicable

All zero bits indicates normal. If the circuit does not have a phasor, the value will be *x8080*.

ASM X50 Statistics

This view provides the following fields.

Addr
The port address.

FrameErrors
A read-only counter.

LocalOs
A read-only counter.

RemoteOs
A read-only counter.

ST1kDsmApp

This application provides DSM module configuration, status, and statistics information.

The Icon Subviews menu for this application provides access to the device specific views listed below.

- DSM Module Specific Entry on Page 153 accesses the DSM Module Configuration Administration view, which provides module implementation and module CDR implementation administration information.
- DSM Module Specific Status on Page 156 accesses the DSM Module Status Administration view, which provides module CDR log status administration, module exchange code status, module CDR record status, module specific status, and module routing table status information.
- DSM Module Statistics on Page 167 provides access to a count of rejected originating calls and rejected terminating calls.

DSM Module Specific Entry

This view contains the two areas described below, i.e., Module Implementation Administration and Module CDR Implementation Administration.

Module Implementation Administration

This area of the DSM Module Configuration Administration view provides the following fields.

Addr
The DSM module address in the format `nest.slot`.

PartitionMap
A read-write field. Every octet pair is the partition ID of a physical port on the module. Partition 1 is for CNMS. Partition 0xFFFE is for any partition. When this is changed, it will not change the current port allocation but it will affect any new server ports being allocated.

PbxProtocol
A read-write field having a value of *dpnss* (the default value), *sig*, *isdn-q931*, or *cas*. All D channels connected to this DSM module will need to be set up with the same protocol as set here. Changes to this field will be reflected in slot **Update** field. A module reset will be required in order for the change to take effect.

ActiveLev1CDRMode
A read-write field having the value *enable* (the default value) or *disable*. This field specifies whether level 1 Call Detail Record for the calls in progress are to be generated by the DSM. This field affects all the D channels terminated on this module. Changes to this field will be reflected in the slot **Update** field. A module update will be required in order for the change to take effect. It will not disrupt any channel connections associated with DSM.

RecordLev1CDRMode
A read-write field having the value *enable* (the default value) or *disable*. This field specifies whether level 1 Call Detail Record for the completed calls are to be generated by the DSM. This field affects all the D channels terminated on this module. Changes to this field will be reflected in the slot **Update** field. A module update will be required in order for the change to take effect. It will not disrupt any channel connections associated with DSM.

ActiveLev2CDRMode
A read-write field having the value *enable* (the default value) or *disable*. This field specifies whether level 2 Call Detail Record for the calls in progress are to be generated by the DSM. This field affects all the D channels terminated on this module. Changes to this field will be reflected in the slot **Update** field. A module update will be required in order for the change to take effect. It will not disrupt any channel connections associated with DSM.

RecordLev2CDRMode
A read-write field having the value *enable* (the default value) or *disable*. This field specifies whether level 2 Call Detail Record for the completed calls are to be generated by the DSM. This field affects all the D channels terminated on this module. Changes to this field will be reflected in the slot **Update** field. A module update will be required in order for the change to take effect. It will not disrupt any channel connections associated with DSM.

Module CDR Implementation Administration

This area of the DSM Module Configuration Administration view provides the following fields.

Addr
The address of this DSM module.

Index
The CDR log to access.

ControlMode
A read-write field having a value of *enable*, *erase*, or *disable* (the default value). Changes will not affect channels that are already connected. *Disable* prevents new CDRs from be recorded in this log. *Erase* removes this CDR log. Changes to this field are reflected in the slot **Update** field. A module update is required for the change to take effect. It will not disrupt channel connections associated with this DSM.

Size
A read-write field that assigns the maximum number of CDRs that may be stored in this CDR log. The default is *0*. The total size of all CDR logs on this module cannot exceed the number of total records available. This number may be obtained from the DSM Module Specific Status view **TotalRecCDRs** field. When a new DSM module is configured, CDR log #1 will be created with a size of *1000* CDRs. Any other CDR logs that are configured after this will have a default size of *0*. Changes to this field will be reflected in the slot **Update** field. A module update is required for the change to take effect. It will not disrupt channel connections associated with this DSM.

OvThrshld
A read-write field that defines an overflow threshold on this CDR log. The default value is *0*. When reached, the threshold flag is set and the Threshold Exceeded alarm is issued. If this value exceeds the value of the **CDRLogSize** field, the Threshold Exceeded alarm will never be generated for this CDR log. When a new DSM module is configured, CDR log #1 will be created with a threshold of *900* CDRs. Any other CDR logs that are configured after this will have a default threshold of *0*. Changes to this field will be reflected in the slot **Update** field. A module update is required for the change to take effect. It will not disrupt channel connections associated with this DSM.

PartitionID
A read-write field that specifies the partition ID of this CDR log. The default value is *1*. Changes to this field are reflected in the slot **Update** field. A module update is required for the change to take

effect. It will not disrupt channel connections associated with this DSM.

DSM Module Specific Status

This view contains the three areas and two buttons described below. The three areas are Module CDR Log Status Administration, Module Exchange Code Status, and Module CDR Record Status. The two buttons are Module Specific Status and Module Routing Table Status.

Module CDR Log Status Administration

This area of the DSM Module Status Administration view provides the following fields.

Addr
The address of this DSM module.

Index
The CDR log number on this DSM module.

Status
A read-only field giving the CDR log overflow flag status and having the value *overflow*, *noOverflow*, *overThreshold*, or *disabled*.

Lev1Entries
The number of level 1 CDRs for this CDR log.

Lev2Entries
The number of level 2 CDRs for this CDR log.

Module Exchange Code Status

This area of the DSM Module Status Administration view provides the following fields.

Addr
The address of DSM module.

CallNumLen
Defines the length of the **CallNumber** field.

CallNumber
The call number. The valid character set is defined in the D channel Exchange Codes Table.

Partition
The partition identifier of the instance you are inquiring information on. Partition 1 (global) should not match the instance partition identifier. It is able to obtain info for any partition.

Code
The call numbers matched exchange code. If there is no matched exchange code, an error message will be displayed. The valid character set is defined in the DSM Exchange Table.

Module CDR Record Status

This area of the DSM Module Status Administration view provides the following fields.

Addr
The address of this DSM module.

LogNum
The CDR log number to be accessed on this DSM module.

Index
The Call Detail Record to be accessed on this log based on its position (counting from the oldest one).

Contents
The Call Detail Record from a module CDR log. These CDRs are for completed calls.

The bytes in a completed call CDR are interpreted as follows:

Part 1 Generic Information

- 1: CDR Type (with values of level 1 or level 2)
- 2: Version Number (1 for Release 3.1.0 and higher nodes)
- 3-4: Partition ID
- 5-6: Call ID
- 7: Protocol (with values of DPNSS, Q.Sig, ISDN-Q.931, or CAS)
- 8: Unused if the protocol is DPNSS or Q.Sig; Variant Type (with values of ETSI primary rate network, ETSI basic rate network, National-2 primary rate network, or National-2 basic rate network) if the protocol is ISDN-Q.931; or Variant Type (with values of DTMF VFM or DTMF AD-10/FR2) if the protocol is CAS.

From this position down, the contents definition varies, depending on the interface level (CDR Type). The level definitions are defined below.

Level 1: CDRs (Physical Characteristics).

- 9-12: Originating Time
- 13-16: Answer Time
- 17-20: Disconnect Time
- 21-22: B-Channel Source Node ID
- 23: B-Channel Source Nest ID
- 24: B-Channel Source Slot ID
- 25-26: B-Channel Source Port ID
- 27-28: B-Channel Source Channel ID
- 29-30: B-Channel Destination Node ID
- 31: B-Channel Destination Nest ID
- 32: B-Channel Destination Slot ID
- 33-34: B-Channel Destination Port ID
- 35-36: B-Channel Destination Channel ID

- 37: Unused if the protocol is Q.Sig or CAS; Call Type (with values of real or virtual) if the protocol is DPNSS; or Call State Just Prior to Call Completion (with values dependent upon the variant) if the protocol is ISDN-Q.931.

The following applies for the values ETSI Primary Rate Network and National-2 Primary Rate Network:

- null state - no call exists.
- call initiated - for an outgoing call, the network has received a call establishment request, but has not yet responded.
- overlap sending - for an outgoing call, the network has acknowledged the call establishment request and is prepared to receive additional call information (if any) in overlap mode.
- outgoing call proceeding - for an outgoing call, the network has sent an acknowledgement that the network has received all call information necessary to effect call establishment.
- call delivered - for an outgoing call, the network has indicated that the remote user alerting has been initiated.
- call present - for an incoming call, the network has sent a call establishment request, but has not yet received a satisfactory response.
- call received - for an incoming call, the network has received an indication that the user device is alerting but has not yet received an answer.
- connect request - for an incoming call, the network has received an answer, but the network has not yet awarded the call.
- incoming call proceeding - for an incoming call, the network has received an acknowledgement that the user device has received all call information necessary to effect call establishment.
- active - for an incoming call, the network has awarded the call to the called user. For an outgoing call, the network has indicated that the remote user has answered the call.
- disconnect request - the network has received a request from the user device to clear the end-to-end connection (if any).
- disconnect indication - the network has disconnected the end-to-end connection (if any), and has sent an invitation to disconnect the user device-network connection.

  - suspend request - the network has received a request to suspend the call, but has not yet responded.
  - resume request - the network has received a request to resume a previously suspended call, but has not yet responded.
  - release request - the network has requested the user device to release and is waiting for a response.
  - call abort - for an incoming call in point-to-multipoint configuration, the call is being cleared before any user has been awarded the call.
  - overlap receiving - for an incoming call, the network has received an acknowledgement of the call establishment request, which permits the network to send additional call information (if any) in the overlap mode.

- 38: Special Profile Type (with values as defined in the Quality of Service Table **QOSCallType** field)
- 39: Info Type (with values of Q.Sig speech, DPNSS A-law, DPNSS ADPCM, DPNSS Mu-law, Unrestricted data, Restricted data, 3.1 KHz audio, 7 KHz audio, and video)
- 40: Special Profile Index
- 41: Channel Profile Index
- 42: NCP Clear Cause (with values as defined in the Recorded Call Detail Record Status view **ChannelState** field.
- 43: Clear Cause. The values are defined below. (If NCP Clear Cause is not zero, this byte is not used.)

  DPNSS values:

  - number unobtainable (0)
  - address incomplete (1)
  - network termination (2)
  - service unavailable (3)
  - subscriber incompatible (4)
  - congestion / collision (7)
  - busy (8)
  - subscriber out of service (9)
  - incoming calls barred (10)
  - service incompatible (19)
  - acknowledgement (20)
  - signal not understood (21)
  - signal not valid (22)
  - service temporarily unavailable (23)
  - facility not registered (24)
  - reject (25)
  - message not understood (26)
  - signalling system incompatible (27)
  - route out of service (28)
  - transferred (29)

- network address extension error (30)
- no free channel or channel unavailable from NCP (34)
- channel out of service (35)
- priority forced release (36)
- access barred (41)
- requested channel unavailable(44)
- DTE controlled not ready (45)
- DTE uncontrolled not ready (46)
- normal call termination (48)
- unbinding (101)
- version invalid (103)
- B-channel failure cause (112)
- D-channel failure cause (113)
- socket failure cause (114)

Q.Sig values: (support begun in release 2.0.2)

- no cause (0)
- no route (3)
- channel unacceptable (6)
- normal call clearing (16)
- user busy (17)
- no user responding (18)
- no answer (19)
- call rejected (21)
- number changed (22)
- out of order (27)
- T302 timer expiration or invalid number format (28)
- status response (30)
- normal unspecified (31)
- no free channel or channel unavailable from NCP (34)
- link reset or temporary failure (41)
- requested channel unavailable(44)
- bearer not authorized (57)
- bearer not available (58)
- service not available (63)
- bearer not implemented (65)
- invalid call reference (81)
- incompatible destination (88)
- no bearer capability, no address, or mandatory (95)
- element missing (96)
- message type not implemented (97)
- message type incompatible (98)
- information type not implemented (99)
- invalid information element contents (100)
- unbinding (101)
- recovery on timer expiry (102)
- version invalid (103)
- protocol error (111)
- B-channel failure cause (112)
- D-channel failure cause (113)
- socket failure cause (114)

ISDN-Q.931 values: (introduced in Release 3.0.0)

- unallocated or unassigned number (1)
- no route to specified transit network (2)
- no route to destination (3)
- channel unacceptable (6)
- call awarded and being delivered in an established channel (7)
- normal call clearing (16)
- user busy (17)
- no user responding (18)
- no answer from user - user alerted (19)
- call rejected (21)
- number changed (22)
- non-selected user clearing (26)
- destination out of order (27)
- invalid number format (28)
- facility rejected (29)
- response to STATUS ENQUIRY (30)
- normal, unspecified (31)
- no circuit/channel available (34)
- network out of order (38)
- temporary failure (41)
- switching equipment congestion (42)
- access information discarded (43)
- requested circuit/channel not available (44)
- resources unavailable, unspecified (47)
- quality of service unavailable (49)
- requested facility not subscribed (50)
- bearer capability not authorized (57)
- bearer capability not presently available (58)
- service or option not available, unspecified (63)
- bearer capability not implemented (65)
- channel type not implemented (66)
- requested facility not implemented (69)
- only restricted digital information bearer
- capability is available (70)
- service or option not implemented, unspecified (79)
- invalid call reference value (81)
- identified channel does not exist (82)
- a suspended call exists, but this call identity does not (83)
- call identity in use (84)
- no call suspended (85)
- call having the requested call identity has been cleared (86)
- incompatible destination (88)
- invalid transit network selection (91)
- invalid message, unspecified (95)
- mandatory information element is missing (96)

- message type non-existent or not implemented (97)
- message not compatible with call state or message type non-existent or not implemented (98)
- information element non-existent or not implemented (99)
- invalid information element contents (100)
- message not compatible with call state (101)
- recovery on timer expiry (102)
- protocol error, unspecified (111)
- internetworking, unspecified (127)

CAS values: (introduced in Release 4.0.0)

- no cause (0)
- no route (3)
- channel unacceptable (6)
- normal call clearing (16)
- user busy (17)
- no user responding (18)
- no answer (19)
- call rejected (21)
- number changed (22)
- out of order (27)
- T302 timer expiration or invalid number format (28)
- status response (30)
- normal unspecified (31)
- no free channel or channel unavailable from NCP (34)
- link reset or temporary failure (41)
- requested channel unavailable(44)
- bearer not authorized (57)
- bearer not available (58)
- service not available (63)
- bearer not implemented (65)
- invalid call reference (81)
- incompatible destination (88)
- no bearer capability or no address or mandatory element missing (96)
- message type not implemented (97)
- message type incompatible (98)
- information type not implemented (99)
- invalid information element contents (100)
- unbinding (101)
- recovery on timer expiry (102)
- version invalid (103)
- protocol error (111)
- B-channel failure cause (112)
- D-channel failure cause (113)
- socket failure cause (114)
- normal call clearing (128)
- response to RELEASE (129)
- no local bandwidth (130)
- no remote bandwidth (131)

  - local channel busy (132)
  - circuit inactive (133)
  - compatibility mismatch (134)
  - inbound translation failed (135)
  - outbound translation failed (136)
  - remote channel busy (137)
  - remote channel not responding (138)
  - outbound time-out (139)
  - inbound time-out (140)
  - idle (141)
  - pass-through failed (142)
  - maximum number of hops exceeded (143)

- 44: Number of Call Attempts Between DSMs
- 45-48: Transmission Rate if the channel type is TDM or CIR if the channel type is packet
- 49-52: Source Time
- 53-54: Source Call Identifier
- 55: Billing Stream Identifier
- 56: Channel Type (with values of TDM or packet)
- 57-58: Customer Identifier
- 59: Compression Type with values that are the same as the scVoicePrfNetCompressMode attribute
- 60: Route Quality Indicator with values as specified and overridden
- 61-64: Compression Rate
- 65-68: EIR if the channel type is packet or Unused (zero) if the channel type is TDM
- 69-72: Bc if the channel type is packet or Unused (zero) if channel type is TDM

Level 2 CDRs (Data Link Layer)

- 9-12: Setup Final Time
- 13-16: Connect Request Time
- 17-20: Connect Response Time
- 21-22: Source Node ID
- 23: Source Nest ID
- 24: Source Slot ID
- 25-26: Destination Node ID
- 27: Destination Nest ID
- 28: Destination Slot ID
- 29: Calling Number Size (number of bytes, not string length). This number is referred to below as x.
- 30 (29+x): Calling Number
- (30+x): Called Number Size (number of bytes, not string length). This number is referred to below as y.
- (31+x)-(30+x+y): Called Number
- (31+x+y): Routing Digits
- (32+x+y): Unused
- (33+x+y): Source TEI
- (34+x+y): Destination TEI

- (35+x+y): Unused
- (36+x+y): Unused.

Module Specific Status

This button on the DSM Module Status Administration view provides access to the following fields.

Addr
The address of this DSM module.

NumDsmComms
The number of DSMs that this DSM is able to communicate with.

CallsProc
The number of calls in the non-idle state (in the process of connection, connected, or in the process of disconnection).

RmtRteEntries
The total number of entries allowed in the remote routing table.

RmtRteAvail
The number of entries in the remote routing table that are available. The number of occupied entries can be determined by subtracting this value from the value of the DSM Module **NumRmtRteEntries** field.

LocRteEntries
The total number of entries allowed in the local routing table.

LocRteAvail
The number of entries in the local routing table that are available. The number of occupied entries can be determined by subtracting this value from the value of the DSM Module **NumLocRteEntries** field.

BypassPPSTotal
The total bypass throughput allowed on this DSM module, in units of packets per second.

BypassPPSAvail
The available bypass capability, in units of packets per second. The current bypass throughput being used on the module can be determined by subtracting this value from the value of the DSM Module **BypassPPSTotal** field.

BypChanTotal
The total number of bypass channels permitted on this DSM module.

BypChanAvail
The number of bypass channels that can still be connected on this DSM module. The number of bypass channels that are connected on the module can be determined by subtracting this

value from the value of the DSM Module **BypChanTotal** field.

CirTotal
The total CIR on this DSM module.

CirAvail
The available (unused) CIR on this DSM module. The current CIR being used can be determined by subtracting this value from the value of the DSM Module **BypChanTotal** field.

VciCtrlBlkTotal
The total number of Vci Control Blocks allowed on this DSM module. Each DLCI terminated on the module requires one Vci Control Block. Each bypass channel on the module requires two Vci Control Blocks.

VciCtrlBlkAvail
The number of available (unused) PVCs on this DSM module. Each DLCI terminated on the module requires one Vci Control Block. Each bypass channel on the module requires two Vci Control Blocks.

TotalBuffers
The total number of channel buffers allowed on this DSM module.

BuffersAvail
The number of available (unused) channel buffers on the DSM module. The number of channel buffers that are currently being used on the module can be determined by subtracting this value from the value of the DSM Module **TotalBuffers** field.

TotalRecCDRs
The total number of recorded CDRs allowed on this DSM module. This value is counted across all CDR logs.

RecCDRsAvail
The number of available (unused) CDRs on this DSM module. These CDRs may be assigned to any of the CDR logs defined on this DSM module.

TotalCallsPerSec
The total amount of calls per second (in units of 0.01 calls per second) that can be handled by this DSM.

CallsPerSecAvail
The amount of calls per second (in units of 0.01 calls per second) that can be allocated on this DSM. The number of calls per second currently allocated to the module can be determined by subtracting this number from the value of the DSM Module **TotalCallsPerSec** field.

CallsPerSecFactor
The conversion factor between calls per second (in units of 0.01 calls per second) and processing units. The equation is: processing units = this value X calls per second.

BypassFactor
The conversion factor between bypass bandwidth (in PPS) and processing units. The equation is: processing units = this value X bypass bandwidth.

TotalProcessUnits
A rating for the total number of D-channel calls per second and bypass bandwidth allowed on this DSM. The two quantities are converted to the same units using the values of the DSM Module **CallsPerSecFactor** and **BypassFactor** fields.

ProcessUnitsAvail
A rating of the number of D-channel calls per second and bypass bandwidth that is unused on this DSM. To determine the amount that is currently allocated, subtract this value from the value of the DSM Module **TotalProcessUnits** field.

Module Routing Table Status

This button on the DSM Module Status Administration view provides access to the following fields.

Addr
The address of DSM module.

ExchCodeLen
The length of the **ExchCode** attribute.

ExchCode
The exchange code.

Partition
The route partition ID.

RemoteNode
The node containing the DSM to which this routing entry refers. For the local routing table entries, this field has a value of *0*.

RemoteSlot
The module address in the node defined in **RemoteNode** that contains the DSM to which this routing entry refers. For the local routing table entries, this field has value of *0.0*.

LocalPortNumber
The physical D-channel port on the DSM to which this routing entry refers. For the remote routing table entries, this field has value of *0*.

PortAddress
The virtual port address of the D-channel port to which this routing entry refers if the route is a local one. For remote routing table entries, this field has a value of *0.0.0*.

DSM Module Statistics

This view provides the following fields.

Addr
The address of a DSM module, in the format `nest.slot`.

RejectOrigCalls
The number of calls initiated by a local ISPBX that were rejected for any reason.

RejectTermCalls
The number of calls initiated by a DSM that would be terminated on this DSM and that were rejected for any reason.

ST1kDsmPortApp

This application provides DSM port configuration, status, and statistics information.

The Icon Subviews menu for this application provides access to the device specific views listed below.

- DSM Port Configuration on Page 168
- DSM Port Specific Administration on Page 176
- DSM D-Channel Port Statistics on Page 184

DSM Port Configuration

This view contains three areas and three buttons, which are described below. The areas include Inter DSM Communication, B-Channel on D-Channel Port Administration, and D-Channel Port Administration. The three buttons are D-Channel Exchange Code Admin, D-Channel Q-Sig Protocol Admin, and Quality of Service Administration.

Inter DSM Communication

This area of the DSM Port Configuration view lets you find a DSM port by searching through a list of port addresses.

B-Channel on D-Channel Port Administration

This area of the DSM Port Configuration view provides the following fields.

Addr

The port address of the associated D-channel port, in the format `type.group.port`. The server type is 131.

Bundle

The particular B-channel on the D-channel port.

Direction

A read-write field used to specify the direction of the calls on this B-channel. The possible values are *`outgoing`*, *`incoming`*, *`bidirectional`*, or *`none`*. *`outgoing`* allows calls originating on PBX

and sent to the ST. *incoming* allows calls originating on the ST-1000 and sent to the PBX. *bidirectional* allows calls in either direction and is the default value for associated D-channels. *none* means this B-channel is not allowed for use and is the default value for disassociated D-channels. The value of this field will be changed to the appropriate default when the D-channel mode is changed between associated and disassociated. Changes to this field will be reflected in the DSM D-channel port **Update** field. A port update is required for the change to take effect. It will not disrupt any channel connections associated with this D-channel port.

D-Channel Port Administration

This area of the DSM Port Configuration view provides the following fields.

Addr

The port address, in the format `type.group.port`. The server type is 131.

StartMode

A read-write field having a value of *automatic*, *off* (the default value), or *erase*. *off* means the D-channel cannot be connected. In order to set it to *erase*, the D-channel must be disconnected.

Update

A read-only field having a value of *loaded*, *updateReq*, or *resetReq* (the default value). When it is set to *resetReq*, you must reset the port (which involves disconnecting and reconnecting the D-channel) in order for the parameter changes to take effect. When it is set to *updateReq*, you can update the port without affecting the D-channel connection in order for the parameter changes to take effect.

PartitionID

A read-write field used for security on shared nodes. The default value is the partition ID of the node.

Protocol

A read-write field displaying the protocol used by the device using this D-channel. This protocol must match the equipment's protocol for the port to come up. The possible values are *dpnss* (the default value), *qsig*, *isdn-q931*, and *cas*.

PbxLayer3Type

A read-write field that indicates whether the PBX or DSM will be responsible for serving B-channels requests (layer 3 master or slave mode). The possible values are *slave* and *master* (the default value). *master* means the DSM controls the assignment of B-channels. The DSM will search the B-channels starting from the low number

(bundle #1 for associated D-channels, B-channel entry #1 for disassociated) to find an available channel. The PBX should search starting from the high number in this case. *slave* means the PBX controls the assignment of B-channels. When making an initial recommendation, the DSM will search the B-channels starting from the high number to find an available channel. The PBX should search starting from the low number in this case. To function properly, the DSM and PBX should be configured as different types.

PbxLayer2Type
A read-write field having a value of *master* (the default value), *slave*, or *q931-always-up*. This parameter is independent of the layer 3 master or slave mode. To function properly, the DSM and PBX should be configured as different types.

SharedZeroFlag
A read-write field having a value of *no* or *yes* (the default value). This field indicates whether the zero bit of a frame's end flag can be combined with the zero bit of the next frame's start flag.

EncodingType
A read-write field having a value of *nrz* (the default value), *nrzb*, *nrzi-space*, or *nrzi-mark*.

ActiveLev1CDRMode
A read-write field having a value of *disable* or *enable* (the default value). The field specifies whether level 1 Call Detail Records for the calls in progress are to be collected for this D-channel. Changing this parameter does not disrupt port operations.

RecordLev1CDRMode
A read-write field having a value of *disable* or *enable* (the default value). The field specifies whether level 1 Call Detail Records for the completed calls are to be collected for this D-channel. Changing this parameter does not disrupt port operations.

ActiveLev2CDRMode
A read-write field having a value of *disable* or *enable* (the default value). The field specifies whether level 2 Call Detail Records for the calls in progress are to be collected for this D-channel. Changing this parameter does not disrupt port operations.

RecordLev2CDRMode
A read-write field having a value of *disable* or *enable* (the default value). The field specifies whether level 2 Call Detail Records for the completed calls are to be collected for this D-channel. Changing this parameter does not disrupt port operations.

CallsPerSecond
An estimate of the number of calls per second (in units of 0.01 calls per second) on this D-channel port. The default value is *1*.

BillRecordMode
A read-write field having a value of *originator-only*, *terminator-only*, *originator-and-terminator*, or *offline* (the default value). This field controls the condition under which channel endpoints using this D-channel will generate billing records.

BillInfoStream
The billing information stream (if any) to be used for B-channels that are managed by this D-channel if the billing record collect mode attribute is not set to offline.

CustomerId
The customer that uses this channel.

BChannelMode
A read-write field having a value of *associated* (the default value) or *disassociated*. This field indicates whether the B-channels that are serviced by this D-channel are associated or disassociated. An associated D-channel means that the B-channels meet the following criteria: the B-channels and D-channel are on the same T1, E1, or BRM port; or the D-channel is identified using the standard bundle number for the interface type (24 for T1, 16 for E1, and 3 for BRM). If either or both of the criteria are not met, the D-channel must be defined as disassociated. This means that you must define the resource addresses of every B-channel in the DSM D-Channel B-Channel Table.

DChPortChannelType
A read-write field having a value of *tdm* (the default value) or *packet*. This field indicates whether the D-channel is carried through the TDM or the packet band of the ST-1000 network.

DChPortInterfaceType
A read-write field having a value of *t1*, *e1* (the default value), or *basic-rate*. For disassociated D-channels, this indicates the type of interface to use when configuring the B-channel usage. For a T1 interface, B-channels 24 through 31 cannot be used. For an E1 interface, B-channel 16 cannot be used. For a basic rate interface, B-channels 3 through 31 cannot be used. The value of this field is ignored for associated D-channels.

DChPortBChSearchMode
A read-write field having a value of *lowToHigh* (the default value) or *highToLow*. This field indicates whether the DSM searches for an available B-channel in low-to-high or high-to-low

order. This should be configured as the opposite of the attached PBX.

D-Channel Exchange Code Admin

This button in the DSM Port Configuration view provides the following fields.

Addr
The D-channel port address in the format `type.group.port`. The server type is 131.

Index
The indexing exchange code within this channel.

ControlMode
Indicates whether this exchange code may be used to make a call. The possible values are *`erase`*, *`enable`*, and *`disable`* (the default value. *`erase`* wipes out the existing exchange code. Changes to this field will be reflected in the DSM D-Channel Port **Update** field. A port update is required for the change to take effect. It will not disrupt channel connections associated with this D-channel port.

Code
A read-write field having valid characters ranging from 0 through 9. Changes to this field are reflected in the DSM D-Channel Port **Update** field. A port update is required for the change to take effect. It will not disrupt channel connections associated with this D-channel port.

D-Channel Q-Sig Protocol Admin

This button in the DSM Port Configuration view provides the following fields.

Addr
The D-channel port address in the format `type.group.port`. The server type is 131.

K
A read-write field displaying the maximum number of outstanding (unacknowledged) I-frames and having a value ranging from *1* through *127*, with a default of *7*. Changes to this field are reflected in the DSM D-Channel Port **Update** field. A port reset is required for the change to take effect.

N200
A read-write field giving the maximum number of frame retransmissions and having a value ranging from *1* through *255*, with a default of *3*. Changes to this field are reflected in the DSM D-Channel Port **Update** field. A port reset is required for the change to take effect.

T200
A read-write field giving the maximum time (in units of 1 second) before frame retransmission is initiated. The possible value ranges from *1* through *255*, with a default of *1*. Changes to this field will be reflected in the DSM D-Channel Port **Update** field. A port reset is required for the change to take effect.

T203
A read-write field having a value ranging from *1* through *255*, with a default of *10*. This field gives the maximum time (in units of 1 second) allowed on layer 2 without frame exchange. If no change is sent during this time, layer 2 monitoring frame is sent. Changes to this field are reflected in the DSM D-Channel Port **Update** field. A port reset is required for the change to take effect.

T302
A read-write field having a value ranging from *1* through *255*, with a default of *6*. This field gives the maximum time between PBX service request messages used to set up a call (in units of 1 second). If this time is exceeded, the call is cleared. Changes to this field are reflected in the DSM D-Channel Port **Update** field. A port reset is required for the change to take effect.

T304
A read-write field having a value ranging from *1* through *255*, with a default of *30*. This field gives the maximum time (in units of 1 second) after receipt of SETUP ACK before one of the following messages is received: `CALL PROCEEDING`, `ALERTING`, `CONNECT`, or `DISCONNECT`. If while waiting the DSM sends any message to the PBX, the timer should be restarted. Changes to this field are reflected in the DSM D-Channel Port **Update** field. A port reset is required for the change to take effect.

T305
A read-write field having a value ranging from *1* through *255*, with a default of *30*. This field gives the maximum time (in units of 1 second) for DISCONNECT message response. Changes to this field are reflected in the DSM D-Channel Port **Update** field. A port reset is required for the change to take effect.

T308
A read-write field having a value ranging from *1* through *255*, with a default of *6*. This field gives the maximum time (in units of 1 second) for a `RELEASE` message response. Changes to this field are reflected in the DSM D-Channel Port **Update** field. A port reset is required for the change to take effect.

T309
A read-write field having a value ranging from *1* through *255*, with a default of *90*. This field gives the maximum time (in units of 1 second) allowed to restore a connection upon detection of a failure. If expired, both the connection and call are cleared. Changes to this field are reflected in the DSM D-Channel Port **Update** field. A port reset is required for the change to take effect.

T314
A read-write field having a value ranging from *1* through *255*, with a default of *6*. This field gives the maximum time (in units of 1 second) allowed to receive all of the segments of a message. This parameter applies only to segmented messages. Changes to this field are reflected in the DSM D-Channel Port **Update** field. A port reset is required for the change to take effect.

T316
A read-write field having a value ranging from *1* through *255*, with a default of *20*. This field gives the maximum time (in units of 1 second) for a RESTART message response. Changes to this field are reflected in the DSM D-Channel Port **Update** field. A port reset is required for the change to take effect.

T322
A read-write field having a value ranging from *1* through *255*, with a default of *6*. This field gives the maximum time (in units of 1 second) for a STATUS INQUIRY message. Changes to this field are reflected in the DSM D-Channel Port **Update** field. A port reset is required for the change to take effect.

Quality of Service Administration

This button in the DSM Port Configuration view provides the following fields.

Addr
The address of the D-channel for which this entry is being used.

Index
The index of the quality of service entry.

ControlMode
A read-write field having a value of *enable*, *disable* (the default value), or *erase*. Changes do not affect channels that are already connected. *Disable* prevents this quality of service entry from being applied to the new voice connections. *Erase* removes this quality of service entry from the table. Changes to this field are reflected in the DSM D-Channel Port **Update** field. A port update is required for the change to take effect. It will not

disrupt channel connections associated with this D-channel port.

LowBChan
A read-write field having a value ranging from *0* (the default value) through *31*. This field represents the low end of the source bundle range available for use by this D-channel. If this field is set to *0*, the used value is set to the lowest valid number. The range is invalid if this field is set to a value greater than **HighBChan**. Changes to this field are reflected in the DSM D-Channel Port **Update** field. A port update is required for the change to take effect. It will not disrupt channel connections associated with this D-channel port.

HighBChan
A read-write field having a value ranging from *0* (the default value) through *31*. This field represents the high end of the source bundle range available for use by this D-channel. If this field is set to *0*, the used value is set to the highest valid number. The range is invalid if this field is not *0* and is set to a value less than **LowBChan**. Changes to this field are reflected in the DSM D-Channel Port **Update** field. A port update is required for the change to take effect. It will not disrupt channel connections associated with this D-channel port.

LowExchCode
The low end of the destination exchange codes range. The possible values are *0* through *9*. The comparison type used is based upon the ASCII codes for the character string. Thus, for example, 5545 is less than 555. If this field is set to an empty string, the lowest valid value is used. The range is invalid if the value of this field is greater than **HighExchCode**. Changes to this field are reflected in the DSM D-Channel Port **Update** field. A port update is required for the change to take effect. It will not disrupt channel connections associated with this D-channel port.

HighExchCode
The high end of the destination exchange codes range. The possible values are *0* through *9*. The comparison type used is based upon the ASCII codes for the character string. Thus, for example, 5545 is less than 555. If this attribute is set to an empty string, the highest valid value is used. The range is invalid if the value of this attribute is not an empty string and less than **LowExchCode**. Changes to this field are reflected in the DSM D-Channel Port **Update** field. A port update is required for the change to take effect. It will not disrupt channel connections associated with this D-channel port.

CallType
A read-write field giving the call type and having a value of *voice* (the default value) or *data*. Changes to this field are reflected in the DSM D-Channel Port **Update** field. A port update is required for the change to take effect. It will not disrupt channel connections associated with this D-channel port.

ChPrfIndex
The channel profile table index that is defined in the channel profile MIB section on the source node. The default value is *1*. Changes to this field are reflected in the DSM D-Channel Port **Update** field. A port update is required for the change to take effect. It will not disrupt channel connections associated with this D-channel port.

SpecialPrfIndex
The special profile table index that is defined in the applicable profile MIB section on the source node. (For example, if **CallType** is set to *voice*, the special profile table will be the voice preference table). The default value is *1*. Changes to this field are reflected in the DSM D-Channel Port **Update** field. A port update is required for the change to take effect. It will not disrupt channel connections associated with this D-channel port.

DSM Port Specific Administration

This view provides three areas, described below: D-Channel Port Administration, D-Channel Port Virtual Status Administration, and D-Channel Port Real Call Status Administration.

D-Channel Port Administration

This area of the DSM Port Specific Administration view provides the following fields.

Addr
The address of the D-channel port, in the format `type.group.port`. The server type is 131.

CallsInProc
The current number of calls in the process of being completed (until the CONNECT messages exchange took place).

NumCallsConn
The current number of calls connected via this D-channel.

D-Channel Port Virtual Status Administration

This area of the DSM Port Specific Administration view provides the following fields.

Addr
The address of the D-channel port associated with this virtual call, in the format `type(131).group.port`.

Bundle
A read-only field that identifies the virtual call to be accessed. For the DPNSS protocol, this index is a bundle number in the range of *1* to *31*. For the Q.Sig protocol, this index is an artificial entity and does not reflect any information about the call origination time.

CDRContents
The Call Detail Record for a virtual call in progress on a D-channel. Virtual calls are those that do not involve B-channels. The bytes in a CDR for a call in progress are interpreted as listed below. (Note that this is the same as the interpretation for CDRs associated with active real calls on a B-channel.)

Part 1 Generic Information

- 1: CDR Type (with values of level 1, level 2, active (also for Part 2 and 3), and not applicable)
- 2: Version Number (1 for Release 3.1.0 and higher nodes)
- 3-4: Partition ID
- 5-6: Call ID
- 7: Protocol (with values of DPNSS, Q.Sig, ISDN-Q.931, or CAS)
- 8: Unused if the protocol is DPNSS or Q.Sig; Variant Type (with values of ETSI primary rate network, ETSI basic rate network, National-2 primary rate network, or National-2 basic rate network) if the protocol is ISDN-Q.931; or Variant Type (with values of DTMF VFM or DTMF AD-10/FR2) if the protocol is CAS.

Part 2 Level 1: Physical Characteristics

- 9-12: Originating Time
- 13-16: Answer Time
- 17-20: Disconnect Time
- 21-22: B-Channel Source Node ID
- 23: B-Channel Source Nest ID
- 24: B-Channel Source Slot ID
- 25-26: B-Channel Source Port ID
- 27-28: B-Channel Source Channel ID
- 29-30: B-Channel Destination Node ID
- 31: B-Channel Destination Nest ID

- 32: B-Channel Destination Slot ID
- 33-34: B-Channel Destination Port ID
- 35-36: B-Channel Destination Channel ID
- 37: Unused if the protocol is Q.Sig or CAS; Call Type (with values of real or virtual) if the protocol is DPNSS; or Current Call State (with values dependent upon the variant) if the protocol is ISDN-Q.931.

The following applies for the values ETSI Primary Rate Network and National-2 Primary Rate Network:

- null state - no call exists.
- call initiated - for an outgoing call, the network has received a call establishment request but has not yet responded.
- overlap sending - for an outgoing call, the network has acknowledged the call establishment request and is prepared to receive additional call information (if any) in overlap mode.
- outgoing call proceeding - for an outgoing call, the network has sent an acknowledgement that the network has received all call information necessary to effect call establishment.
- call delivered - for an outgoing call, the network has indicated that the remote user alerting has been initiated.
- call present - for an incoming call, the network has sent a call establishment request, but has not yet received a satisfactory response.
- call received - for an incoming call, the network has received an indication that the user device is alerting but has not yet received an answer.
- connect request - for an incoming call, the network has received an answer but the network has not yet awarded the call.
- incoming call proceeding - for an incoming call, the network has received an acknowledgement that the user device has received all call information necessary to effect call establishment.
- active - for an incoming call, the network has awarded the call to the called user. For an outgoing call, the network has indicated that the remote user has answered the call.
- disconnect request - the network has received a request from the user device to clear the end-to-end connection (if any).
- disconnect indication - the network has disconnected the end-to-end connection (if any), and has sent an invitation to disconnect the user device-network connection.

  - suspend request - the network has received a request to suspend the call, but has not yet responded.
  - resume request - the network has received a request to resume a previously suspended call, but has not yet responded.
  - release request - the network has requested the user device to release and is waiting for a response.
  - call abort - for an incoming call in point-to-multipoint configuration, the call is being cleared before any user has been awarded the call.
  - overlap receiving - for an incoming call, the network has received an acknowledgement of the call establishment request, which permits the network to send additional call information (if any) in the overlap mode.

- 38: Special Profile Type (with values defined in the DSM D-channel QoS **CallType** field)
- 39: Info Type (with values of Q.Sig speech, DPNSS A-law, DPNSS ADPCM, DPNSS Mu-law, Unrestricted data, Restricted data, 3.1 KHz audio, 7 KHz audio, and video)
- 40: Special Profile Index
- 41: Channel Profile Index
- 42: Unused (needed for NCP Clear Cause, which is never valid for calls in progress)
- 43: Unused (needed for Clear Cause, which is never valid for calls in progress)
- 44: Number of Call Attempts Between DSMs
- 45-48: Transmission Rate if the channel type is TDM or CIR if the channel type is packet
- 49-52: Source Time
- 53-54: Source Call Identifier
- 55: Billing Stream Identifier
- 56: Channel Type (with values of TDM or packet)
- 57-58: Customer Identifier
- 59: Compression Type (with values that are the same as the scVoicePrfNetCompressMode attribute
- 60: Route Quality Indicator (with values as specified and overridden)
- 61-64: Compression Rate
- 65-68: EIR if the channel type is packet or Unused (zero) if the channel type is TDM
- 69-72: Bc if the channel type is packet or Unused (zero) if channel type is TDM

Part 3 Level 2 Data Link Layer

- 73-76: Setup Final Time
- 77-80: Connect Request Time
- 81-84: Connect Response Time
- 85-86: Source Node ID

- 87: Source Nest ID
- 88: Source Slot ID
- 89-90: Destination Node ID
- 91: Destination Nest ID
- 91: Destination Slot ID
- 93: Calling Number Size (number of bytes, not string length). This number is referred to below as x.
- 94 (93+x): Calling Number
- (94+x): Called Number Size (number of bytes, not string length). This number is referred to below as y.
- (95+x)-(94+x+y): Called Number
- (95+x+y): Routing Digits
- (96+x+y): Unused
- (97+x+y): Source TEI
- (98+x+y): Destination TEI
- (99+x+y): Unused
- (100+x+y): Unused.

Layer2Status
A read-only field that indicates the Layer 2 status of a virtual call from the point of view of the DSM. The possible values are *pending*, *in-service*, *layer2Timeout*, *layer2Mismatch*, and *notApplicable*. *notApplicable* is displayed for the D-channel bundle if the DPNSS protocol is used and for all virtual calls if the Q.Sig protocol is used.

Layer2State
A read-only field that indicates the Layer 2 protocol state of a virtual call from the point of view of the DSM. The possible values for the DPNSS states are *idle*, *ready*, *waitingForResponse*, *waitingForEstablishment*, and *outOfService*. The possible values for the Q.Sig states are *unassignedTEI*, *assignAwaitingTEI*, *establishAwaitingTEI*, *assignedTEI*, *awaitingEstablishment*, *awaitingRelease*, *multipleFrameEstablished*, and *timeRecovery*. *notApplicable* is displayed for the D-channel bundle if the DPNSS protocol is used and for all virtual calls if the Q.Sig protocol is used.

Layer3State
A read-only field that indicates the Layer 3 protocol state of a virtual call from the point of view of the DSM. The possible values are listed below.

inactive (1)	idle (2)
outgoingService (3)	incomingService (4)
awaitNAMOut (5)	awaitNAMIn (6)
awaitCCMOut (7)	awaitCCMIn (8)

setupComplete (9)	callRejecting (10)
callClearing (11)	callBarred (12)
preIdle (13)	awaitRelease (14)
nullState (129)	callInit (130)
overlapSending (131)	outgoingCallProceeding (132)
callDelivered (133)	callPresent (135)
callReceived (136)	connectRequest (137)
incomingCallProceeding (138)	callActive (139)
disconnectRequest (140)	disconnectIndication (141)
suspendRequest (144)	resumeRequest (146)
releaseRequest (148)	callIndependentService (153)
overlapReceive (154)	idleState (155)
establishWait (156)	passiveAwaiting Conf(157)
callPassive (158)	registerRequest (159)
]cancelRequest (160)	asaiTr1State (161)
u10HoldRequest (162)	u10TransferRequest (163)
u10ConferenceRequest (164)	u10ReconnectRequest (165)
u10AwaitingDisc (166)	u10CallOnHold (167)
deactivated (168)	reactivateRequested (169)
deactivateRequested (170)	nilHoldReqU3 (171)
nilHoldReqU4 (172)	nilHoldReqU10 (173)
nilRetrieveU3 (174)	nilRetrieveU4 (175)
nilRetrieveU10 (176)	nilHoldActiveU3 (177)
nilHoldActiveU4 (178)	nilHoldActiveU10 (179)
broadcastState (180)	notApplicable (255)

The values between 1 and 127 are used for DPNSS states. The values between 128 and 254 are used for Q.Sig states. *notApplicable* is displayed for the D-channel bundle if the DPNSS protocol is used.

TransitState

A read-only field that indicates the transit call control state of a virtual call from the point of view of the DSM. The possible values are listed below. *notApplicable* is displayed for the D-channel bundle if the DPNSS protocol is used.

inactive	idle
awaitDigits	awaitAdditionalDigits
overlap	incomingCallProceeding
transitCallProceeding	callAlerting
active	awaitIncomingRelease
awaitOutgoingRelease	awaitTwoWayRelease

awaitCallVirtChannelResponse	awaitNcpReleaseResponse
awaitNcpReleaseNoResponse	awaitNcpRelease
awaitNcpDisconnect	awaitNcp
notApplicable	

D-Channel Port Real Call Status Administration

This area of the DSM Port Specific Administration view provides the following fields.

Addr
The address of the D-channel port associated with this real call, in the format `type.group.port`.

Bundle
The B-channel used for this real call.

Contents
The Call Detail Record for a real call in progress on a D-channel. Real calls are those that involve B-channels. The bytes in a CDR for a call in progress are interpreted the same as the interpretation for CDRs associated with active virtual calls. See CDRContents on Page 177.

Layer2Status
A read-only field that indicates the Layer 2 status of a real call from the point of view of the DSM. The possible values are *`pending`*, *`in-service`*, *`layer2Timeout`*, *`layer2Mismatch`*, and *`notApplicable`*. *`notApplicable`* is displayed for the D-channel bundle if the DPNSS protocol is used and for the bundles not used for the D-channel if the Q.Sig and ISDN-Q.931 protocol is used.

Layer2State
A read-only field that indicates the Layer 2 protocol state of a real call from the point of view of the DSM. The possible values are listed below. The values between 1 and 127 are used for DPNSS states. The values between 128 and 254 are used for Q.Sig and ISDN-Q.931 states. *`notApplicable`* is displayed for the D-channel bundle if the DPNSS protocol is used and for the bundles not used for the D-channel if the Q.Sig and ISDN-Q.931 protocol is used.

1 idle	2 ready
3 waitingForResponse	4 waitingForEstablishment
5 outOfService	129 unassignedTEI
130 assignAwaitingTEI	131 establishAwaitingTEI
132 assignedTEI	133 awaitingEstablishment

134awaitingRelease	135 multipleFrameEstablished
136 timeRecovery	255 notApplicable

Layer3State

A read-only field that indicates the Layer 3 protocol state on a real call from the point of view of the DSM. The possible values are listed below. The values between 1 and 127 are used for DPNSS states. The values between 128 and 254 are used for Q.Sig and ISDN-Q.931 states. *notApplicable* is displayed for the D-channel bundle.

inactive (1)	idle (2)
outgoingService (3)	incomingService (4)
awaitNAMOut (5)	awaitNAMIn (6)
awaitCCMOut (7)	awaitCCMIn (8)
setupComplete (9)	callRejecting (10)
callClearing (11)	callBarred (12)
preIdle (13)	awaitRelease (14)
nullState (129)	callInit (130)
overlapSending (131)	outgoingCallProceeding (132)
callDelivered (133)	callPresent (135)
callReceived (136)	connectRequest (137)
incomingCallProceeding (138)	callActive (139)
disconnectRequest (140)	disconnectIndication (141)
suspendRequest (144)	resumeRequest (146)
releaseRequest (148)	callAbort (151)
callIndependentService (153)	overlapReceive (154)
idleState (155)	establishWait (156)
passiveAwaitingConf (157)	callPassive (158)
registerRequest (159)	cancelRequest (160)
asaiTr1State (161)	u10HoldRequest (162)
u10TransferRequest (163)	u10ConferenceRequest (164)
u10ReconnectRequest (165)	u10AwaitingDisc (166)
u10CallOnHold (167)	deactivated (168)
reactivateRequested (169)	deactivateRequested (170)
nilHoldReqU3 (171)	nilHoldReqU4 (172)
nilHoldReqU10 (173)	nilRetrieveU3 (174)
nilRetrieveU4 (175)	nilRetrieveU10 (176)
nilHoldActiveU3 (177)	nilHoldActiveU4 (178)
nilHoldActiveU10 (179)	broadcastState (180)
notApplicable (255)	

RealTransitState
A read-only field that indicates the transit call control state of a real call from the point of view of the DSM. The possible values are listed below. *notApplicable* is displayed for the D-channel bundle.

inactive	idle
awaitDigits	awaitAdditionalDigits
overlap	incomingCallProceeding
transitCallProceeding	callAlerting
active	awaitIncomingRelease
awaitOutgoingRelease	awaitTwoWayRelease
awaitCallRealChannelResponse	awaitNcpReleaseResponse
awaitNcpReleaseNoResponse	awaitNcpRelease
awaitNcpDisconnect	awaitNcp
awaitNcpNet	notApplicable

DSM D-Channel Port Statistics

This view provides the following fields.

Addr
The address of the D-channel, in the format type.group.port. The server type is 131.

ControlMode
Setting this field to *clearStats* will reset all of the counters in this application to zero.

OrigAttempts
The number of calls attempted by the ISPBX over this D-channel. This includes both successful and failed calls.

TermAttempts
The number of calls attempted by the ST-1000 network to the ISPBX connected to this D-channel. This includes both successful and failed calls.

PbxLayer2Err
The number of layer 2 errors detected by the DSM on this D-channel.

PbxLayer3Errs
The number of layer 3 errors detected by the DSM on this D-channel.

PbxLinkResets
The number of layer 2 reset commands received from the ISPBX on this D-channel.

PbxDisconns
The number of calls disconnected on this D-channel due to a request from the local ISPBX.

PbxUnkExchs
The number of call attempts originating from the local ISPBX that failed because the called number did not fall into any exchange codes to which the DSM has a route.

PbxNoBws
The number of call attempts originating from the local ISPBX that failed because no route could be found between the source and destination nodes with enough bandwidth for the channel connection.

PbxNoCmprs
The number of call attempts originating from the local ISPBX that failed because a compression resource was not available in either the source or destination node of the channel connection.

PbxNoBchs
The number of call attempts originating from the local ISPBX that failed because there were no available B-channels that could handle an outgoing call.

PbxOtherFails
The number of call attempts originating from the local ISPBX that failed for any reason not covered by the other statistics in this MIB section.

NetDisconns
The number of calls disconnected on this D-channel due to a request from the ST-1000 network.

NetOtherFail
The number of calls attempting to terminate on the local ISPBX that failed for any reason not covered by the other statistics in this MIB section.

ST1kAlarmApp

This application provides alarm administration information.

The Icon Subviews menu for this application provides access to the Alarm Administration view. This view contains two areas and two buttons. The areas are the Alarm Partition Header/System Profile Administration area and Alarm Log Table area. The buttons include the Alarm Partition Header Administration button and Alarm Log Record Administration button.

Alarm Partition Header/System Profile

This area of the Alarm Administration view provides the following fields.

PartitionCRCCheck
A read-only field having a value of *succeed* or *fail*.

PartitionFlushMode
A read-write field having a value of *enable* or *disable*.

SysLogSize
Assigns the size to each of the 32 alarm logs, specified in kilobytes. The total size cannot exceed 128 kilobytes.

SysLogSizeAvailable
The amount of remaining alarm log space, in kilobytes.

Alarm Log Table

This area of the Alarm Administration view provides the following fields.

Index
A read-only field having a value ranging from *1* through *32*.

State
A read-only field having a value of *notificationOn*, *notificationOff*, *notificationOnWoverflow*, *notificationOffWoverflow*, or *loggingDisabled*.

TotalEntries
A read-only field giving the total number of outstanding alarms contained within this alarm log.

Avail.Entries
A read-only field giving the total number of available entries in the alarm log. This is based on the size of the alarm log.

NotificationList
A read-write field that specifies root nodes that should receive alarm notifications for alarms in this log. These root nodes will send traps to SNMS stations based upon their own trap access tables. Up to 16 root node addresses can be specified.

LogPartitionID
A read-write field having a value ranging from *1* through *1023*.

Alarm Partition Header Administration

This button in the Alarm Administration view provides the following fields.

Partition Control
A write-only field having a value of *validateCRC* or *invalidateCRC*.

PartitionCRCCheck
A read-only field having a value of *succeed* or *fail*.

PartitionFlushMode
A read-write field having a value of *enable* or *disable*.

Alarm Log Record Administration

This button in the Alarm Administration view provides an alarm log record having the following fields.

Rec.Index
An alarm record index number, having the format <log number>.<record number>.

Rec.Contents
The contents of an alarm record. The bytes within this record are interpreted as follows:

- 1-4 threshold value
- 5-8 event number
- 9-12 event time
- 13-14 source class
- 15-16 problem code
- 17-18 correlation
- 19-20 partition identifier
- 21-28 source instance identifier

- 29-36 backup instance identifier
- 37-60 qualifier
- 61 equipment type
- 62 severity
- 63 backup status
- 64 threshold type

Device Configuration View

This section covers the view that displays MIB information for the device.

The Configuration view lets you do the following:

- Reconfigure device redundancy
- Reconfigure the device model
- Discover LANs
- View address translation information
- View configuration information about the device.

Router Redundancy

This button accesses the Redundancy and Model Reconfiguration Options view. In this view, select **Button Explanations** and follow the instructions given to reconfigure redundancy and the device model and discover LANs.

IF Address Translation

Lets you access the Interface Address Translation Table (page 15).

The Device Configuration view provides the following fields.

Index
The port number on the device.

Description
A textual description of the interface, which may include the manufacturer's name, product name, and version number of the hardware interface.

Type
The type of interface for the port (e.g., Ethernet).

Bandwidth
The estimated bandwidth of the interface, in bits per second. For interfaces that do not vary in bandwidth or for which no accurate estimate can be made, a nominal bandwidth is provided.

Physical Address
The Ethernet (MAC) address of the port.

Operation Status
The current operational state of the port (ON, OFF, or Test).

Admin Status
The desired operational state of the port (ON, OFF, or Test).

Last Change
The system time since the port entered its current operational state (in the format: D + HH:MM:SS, where “D” is the number of days in the active state).

Queue Length
The length of the outbound queue of packets.

Packet Size
The largest Maximum Transmission Unit (MTU) that can be transmitted or received by the port, in octets.

Model Information Views

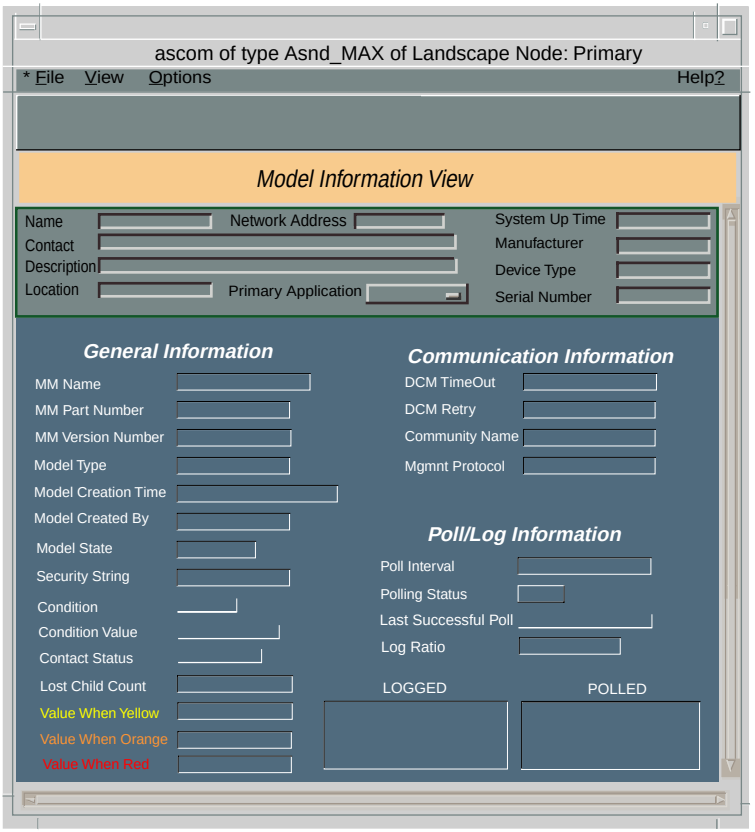
This section introduces the Model Information views available for the devices.

These views may vary depending on the models they define. A sample view is shown in Figure 7.

Model Information views are available for the Device icon, the Interface icons, and the icons representing the applications supported by the device.

The Model Information view is common in its purpose and use for all devices in SPECTRUM and is therefore described in ***SPECTRUM Views***.

Figure 7: Sample Model Information View



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